Unit Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Unit Title:	Business Analytics and Decision Support
Unit ID:	BUACC2501
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	(ITECH2501)
ASCED:	020307

Description of the Unit:

This project-based dynamic undergraduate unit will equip students with the skills and knowledge to translate data into actionable insights for real-world business problems. Through a unique blend of lectures, hands-on activities, and project-based learning, students will gain a comprehensive understanding of core business analytics concepts. This unit utilises a "sprint" approach, and small teams of students work in small teams throughout the semester, tackling real-world business challenges provided by industry partners or simulated case studies. Each sprint will focus on a specific aspect of business analytics, such as data exploration, cleaning, analysis, and visualisation.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

Course Level:

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory						
Intermediate			✔			
Advanced						

Learning Outcomes:

Knowledge:

K1. Gain a strong foundation in core Business Analytics concepts and methodologies and explain the role of data analytics in creating a competitive advantage for businesses in the digital economy.

K2. Explore how diverse data can be utilised to solve real-world problems through critical analysis and appropriate techniques.

K3. Leverage business analytics to translate complex findings into actionable outcomes, effectively communicating insights to technical and non-technical audiences.

K4. Formulate alternate solutions to enhance data-driven informed strategic decision-making.

Skills:

S1. Utilise various analytical tools and employ experimental methods to analyse business data, extracting valuable insights.

S2. Develop skills to present descriptive and reporting analytics using powerful data visualisation techniques.

S3. Present the findings of your business analysis in a professional manner, utilising appropriate data visualisation tools to enhance clarity and impact.

Application of knowledge and skills:

A1. Formulate a solution to an identified business problem by employing business analytics tools and techniques to provide actionable insights to guide effective decision-making.

A2. Articulate decision-making strategies and proposed solutions for a given business scenario to various stakeholders, ensuring clear understanding and alignment.

Unit Content:

Topics may include:
1. Sprint 1: Problem Identification (2 weeks)
Introduce the concept of Business Analytics and the project. Identify a real-world business problem suitable for Business Analytics application using techniques such as 5 WHYS or SCAMPER. Determine data collection methods (surveys, interviews, secondary data sources etc.) Present a project proposal document outlining the chosen problem, research questions, and data collection plan.
2. Sprint 2: Data collection (2 weeks)
Data acquisition and collection via surveys, interviews, and downloading secondary data. Data cleaning & Preparation using data wrangling tools such as Excel, Google Sheets, and Python libraries. Application of data cleaning techniques (handling missing values, outliers, inconsistencies) to their collected data to convert them to a usable form and produce a cleaned and prepared dataset.
3. Sprint 3: Exploratory Data Analysis (EDA) & Visualisation (2 weeks)
Students present EDA techniques such as descriptive statistics, and present data using data visualisation tools such as Tables and communicate their findings to understand patterns, trends, and relationships.
4. Sprint 4: Modelling & Analytics (2 weeks)
Application of common Business Analytics models (e.g., regression, classification) and using a statistical

software package (e.g., R, Python) to analyse collected data. Selecting appropriate models based on their research questions and present their models using documentation.
5. Sprint 5: Communication & Storytelling (2 weeks)
Students develop a presentation or report summarising their project findings and recommendations and deliver a polished presentation or report for a non-technical audience.
6. Sprint 6: Project Showcase & Reflection (2 weeks)
Students present their projects to the class or a wider audience (optional: industry panel). Facilitate group discussions on learnings and challenges faced throughout the project. Students present their reflections summarising key takeaways and future career aspirations.

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, S1, S2, A1	Work individually or in groups to analyse business problems based on real-world business scenarios, design alternative solutions and evaluate the relevant theories and techniques to support business decision-making.	Assignment(s)	30%- 40%
K4, S3, A1, A2	Design and develop a decision-support solution for an authentic business case. Draw upon relevant theories to justify your approach, choice of business analytics systems and techniques, and decision-making strategy, including alignment with the business problem. Formulate and present strategic recommendations to a stakeholder audience, considering both immediate operational improvements and long-term strategic objectives. Articulate how the proposed recommendations align with broader business transformation goals, and reflect on your learning.	Essay, Presentation and Reflection	30%- 50%
K1, K2, K3,K4, S3, A1	XPMC live challenge Presentation to show effective application of all learned business analytics techniques throughout the project. Teamwork and collaboration in tackling complex problems. Critical thinking and problem-solving skills applied to solve the problem. Quality and effectiveness of the final recommendations based on data analysis.	Presentation	20%-30%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool