Prifysgol Wrecsam
Wrexham University

Module specification

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Module Code	BUS7E6
Module Title	Data Analytics
Level	7
Credit value	30
Faculty	WBS
HECoS Code	100840
Cost Code	GABP
Pre-requisite module	N/A

Programmes in which module to be offered

Programme title	Core/Optional/Standalone
MSc Accounting and Finance	Core
MSc Accounting and Finance with Advanced Practice	Core

Breakdown of module hours

Learning and teaching hours	30 hrs
Placement tutor support hours	0 hrs
Supervised learning hours e.g. practical classes, workshops	0 hrs
Project supervision hours	0 hrs
Active learning and teaching hours total	**30 hrs**
Placement hours	0 hrs
Guided independent study hours	270 hrs
Module duration (Total hours)	**300 hrs**

Module aims

This module aims to develop students' ability to critically understand and apply data analytics techniques to support evidence-based decision-making in business, accounting, and finance contexts. It equips students with the skills to analyse, interpret, and communicate insights from organisational and financial data while exercising professional judgement in relation to ethical, governance, and practical limitations of data analytics.

Module Learning Outcomes

At the end of this module, students will be able to:

1	Critically evaluate the role and value of data analytics in business, accounting, and financial decision-making contexts.
2	Apply appropriate analytical techniques to analyse structured organisational and financial data, selecting methods suited to specific decision problems.
3	Appraise analytical results using clear visualisation and narrative tailored to professional and managerial audiences.
4	Demonstrate professional judgement by recognising ethical, governance, and limitation-related issues in the use of data analytics.

Assessment

Indicative Assessment Tasks:

This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

Assessment 1:

A group report that applies data analytics techniques to a real-world business, accounting, or financial decision problem. Students will undertake data preparation, exploratory analysis, and appropriate analytical techniques to generate insights from structured organisational data, evaluate the relevance and value of analytics for decision-making, and present evidence-based findings supported by quantitative analysis.

Assessment 2:

A closed book assessing students' ability to evaluate, apply, interpret, and exercise professional judgement in the use of data analytics

Assessment number	Learning Outcomes to be met	Type of assessment	Duration/Word Count	Weighting (%)	Alternative assessment, if applicable
1	1, 3	Group Project	2,000	40%	Oral Assessment
2	1, 2, 3, 4	Examination	3 hours	60%	N/A

Derogations

N/A

Learning and Teaching Strategies

The overall learning and teaching strategy is based upon the key principle that students are encouraged to participate in higher education when they are exposed to flexible ways of learning that engage them using innovative and creative pedagogical approaches. To this end People and Culture module applies the University's Active Learning Framework (ALF) supporting accessible, and flexible learning. Students will have access to multiple learning opportunities including face to face and online classes (with core and guest lecturers), seminars, access to recorded lectures, lecture notes and handouts and directions to relevant essential and additional reading.

An interactive approach to learning is always maintained and staff will engage students with key issue by drawing on case studies and their practice experiences in the world of business and management. Lectures will be organised around lecture inputs, quizzes, recorded video content, simulation software (where applicable), larger and small group discussions and debates. Face to Face or video mediated appointments can be made with tutoring staff via Microsoft Teams to discuss module content and assignments.

Welsh Elements

Students have an option to submit the assessments and receive feedback for the module in Welsh. Case studies and contextualised Welsh examples will also be implemented within the module where possible.

Indicative Syllabus Outline

1. Introduction to Data Analytics in Organisations
2. Business and Analytical Problem Formulation
3. Data Types, Data Sources, and Data Structures
4. Data Preparation and Data Quality Management
5. Exploratory Data Analysis (EDA)
6. Data Visualisation and Dashboard Design
7. Descriptive and Diagnostic Analytics
8. Introduction to Predictive Analytics
9. Segmentation, Pattern Discovery, and Exploratory Modelling
10. Time Series Analysis and Forecasting
11. Decision Support and Prescriptive Analytics
12. Ethics, Governance, and Responsible Use of Data Analytics

Indicative Bibliography

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads:

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

Other indicative reading:

Hyndman, R.J. and Athanasopoulos, G. (2021), *Forecasting: Principles and Practice*. 3rd ed. Melbourne: OTexts.

Abdul Hussein, A. (2022), *Data Analytics and Decision Making*. Windsor, ON: University of Windsor.

James, G., Witten, D., Hastie, T. and Tibshirani, R. (2022), *An Introduction to Statistical Learning: With Applications in R*. 2nd ed. New York, NY: Springer

Websites

www.ioaglobal.org
www.iiba.org
www.icaew.com/groups-and-networks/communities/data-analytics-community
www.data.gov.uk
www.globaldata.com

Journals

Journal of Big Data (Springer)

Big Data Research (Elsevier)

Big Data & Society (SAGE Publications)

International Journal of Data Science and Analytics (Springer)

Administrative Information

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Initial approval date	08/06/26
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Date and details of revision	
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