Prifysgol Wrecsam
Wrexham University

Module specification

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Refer to guidance notes for completion of each section of the specification.

Module Code	ONLM726
Module Title	Applied Data Analytics for Decision Making
Level	7
Credit value	15
Faculty	FSALs
HECoS Code	100079
Cost Code	GABP

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
MSc Business Analytics	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	15 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	15 hrs
Placement / work based learning	0 hrs
Guided independent study	135 hrs
Module duration (total hours)	150 hrs

For office use only	
Initial approval date	29th July 2024
With effect from date	September 2024
Date and details of revision	
Version number	1

Module aims

This Module will challenge students by introducing them to making business decisions using data analysis. Data analysis is the use of statistics combined with analytical methods to give insights into a business. After starting with a refresher on basic statistics, students will learn how to create statistical experiments to create a process for decision making. These experiments will use methods such as regression and optimization to determine the optimal business decisions. The analysis of these experiment outcomes will give you a deeper insight into your business units. This will result in an increase in your ability to add value to your organisation.

Module Learning Outcomes - at the end of this module, students will be able to:

1	Critically evaluate the applicability of statistical concepts in decision-making contexts, and critically assess their limitations, uncertainties and potential bias, when applying these within a business context.
2	Design and implement data gathering and analysis strategies that effectively address organisational needs and support evidence-based decision making, taking account of any uncertainties which may impact organisational effectiveness.
3	Design a statistical experiment for decision making, which incorporates academic analysis, and discuss its intended application and outcome within a business problem.
4	Critically discuss regression analysis based on the relationship between variables and interpret the results for business forecast decision making from analytical and critical perspective.
5	Critically discuss optimization analysis and discuss how this can efficiently allocate resources in an organisation, seeking ways in which to optimise business performance.
6	Critically evidence different methods of utilising technology to efficiently create decision making outputs.

Assessment

Indicative Assessment Tasks:

Formative Assessment

Formative assessment for this module may include:

End of lesson questions or quizzes, to check knowledge at the end of each unit and module, feedback on subject discussion forums, sharing experiences in groups, self and peer assessment and one-minute papers, to demonstrate understanding and progress of subject knowledge, and improve learning.

Summative Assessment

Assignment 1:

Learners are to complete a written analysis of how data analytics supports business decision making, through data gathering and analysis strategies that effectively address organisational needs and evidence-based decision making within an organisational context. (Indicative word count – 1,000 words).

Assignment 2:

Leaners are to develop relevant statistical experiments to produce a process for decision making and present a critical analysis of these experiment outcomes to evidence deeper insight into business performance and objectives, discussing how these can add value and impact to an organisation. (Indicative word count – 2,000 words).

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1, 2	Written Assignment	40%
2	3, 4, 5, 6	Written Assignment	60%

Derogations

None

Learning and Teaching Strategies

The overall learning and teaching strategy is one of guided independent study, in the form of distance learning requiring ongoing student engagement. Online material will provide the foundation of the learning resources, to support a blended approach, requiring the students to log-in and engage on a regular basis throughout the eight-week period of the module. There will be a mix of recorded lectures and supporting notes/slides, containing embedded digital content and self-checks for students to complete as they work through the material and undertake the assessment tasks. The use of a range digital tools via the virtual learning

environment together with additional sources of reading will also be utilised to accommodate learning styles. There is access to a helpline for additional support and chat facilities through Canvas for messaging and responding.

Indicative Syllabus Outline

Statistical foundations within business
Evidencing analytics through experiments, research and findings
Data gathering and analytics strategies
Contemporary theory and frameworks
Regression analysis and its alternatives
Technology for decision making outputs

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update. Please *ensure correct referencing format is being followed as per University Harvard Referencing Guidance.*

Essential Reads

Journal of Business and Management
International Journal of Business and Management
Journal of International Economics
International Tade Journal
Journal of Business Research
Journal of Data Analytics
International Journal of Data Science and Analytics
International Journal of Corporate Social Responsibility

Other indicative reading

Asplen-Taylor, S. (2022), Data Analytics Strategy for Business: Unlock Data Assets and Increase Innovation with Results Driven Data Strategy, London, Kogan Page.

Field, Andy. (2017). Discovering Statistics Using IBM SPSS Statistics, Fifth Edition, Paperback, London, UK, Publisher: SAGE Publications Ltd.

Wooldridge, Jeffrey M. (2019). Introductory Econometrics: A Modern Approach, Seventh Edition, (MindTap Course List). Boston, USA, Publisher: Cengage Learning.