Prifysgol Wrecsam
Wrexham University

Module specification

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Module Code	ONL719
Module Title	Business Analytics for Project Management
Level	7
Credit value	15
Faculty	Wrexham Business School
HECoS Code	100812
Cost Code	GABP
Pre-requisite module	NA

Programmes in which module to be offered

Programme title	Core/Optional/Standalone
MBA Project Management (Online)	Core

Breakdown of module hours

Learning and teaching hours	15 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	**15** hrs
Placement hours	0 hrs
Guided independent study hours	135 hrs
Module duration (Total hours)	150 hrs

Module aims

This module aims to develop students' understanding of various numerical methods for forecasting, in particular time-series methods that have wide applications in project management. It also explores the aspects of risk and uncertainty in project management, which are central to forecasting and prediction. This module employs the SPSS software package for implementing forecasting methods (free software downloads available to students).

Module Learning Outcomes

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

1	Provide a critical insight into various numerical methods for forecasting that have wide applications in project management.
2	Explores the aspects of risk and uncertainty in project management, which are central to forecasting and prediction In project management.
3	Identify appropriate techniques to implement forecasting methods employing the SPSS software package and critically evaluate several measures of prediction accuracy of a forecasting method in project management.

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.

You must present critical discussion and analysis of academic theory and literature to successfully meet the learning outcomes.

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.

Assessment 1: Written Report (LO1)

You are required to present a written report on moving average, exponential smoothing and trend forecasting in project management. Using data and a project of your choice, you are to critically evaluate the use of the numerical forecasting methods in a project management context: Moving average, exponential smoothing, trend forecasting. You must apply your findings in a practical context using a project of your choice and address how the data can be utilised to predict future trends.

Assessment 2: Report (LOs2&3)

Write a written report on econometric forecasting models. You will use SPSS to carry out an analysis of data of your choice. Using a project and data of your choice, produce a report examining how you would use one econometric forecasting models to forecast trends in your chosen project. Following this and in the same report you will then discuss forecasting risks, and probability impact matrix. You will critically evaluate the forecasting risks and uncertainties facing project managers and apply it to your chosen data set.

Assessment number	Learning Outcomes to be met	Type of assessment	Duration/Word Count	Weighting (%)	Alternative assessment, if applicable
1	1	Written Assignment	800	40%	N/A
2	2, 3	Written Assignment	1,200	60%	N/A

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. On-line 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 six-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 help-line for additional support and chat facilities through Canvas for messaging and responding.

Welsh Elements

Every student has the right to submit written work or examinations in Welsh. All Welsh speaking students have the right to a Welsh speaking tutor. Elements of the Welsh language and culture will be embedded throughout the module where possible.

Indicative Syllabus Outline

Learning through acquisition

Big data technologies

Business intelligence and visualisation

Forecasting using the SPSS software package

Basic forecasting methods

Predictive modelling

Measuring forecasting performance

Indicative Bibliography

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

Essential Reads:

Capone, C., Akhlassov, Y.S. and Ibrayev, O.S. (2024), 'Applications of Non-Traditional Earned Value Management Models in Project Analytics', *Ķazaķstan-Britan Tehnikalyķ Universitetìniņ Habaršysy,* Vol.21, No.3, pp. 374–383. DOI: 10.55452/1998-6688-2024-21-3-374-383.

Gujarati, D.N. (2015), *Econometrics by Example*. 2. ed. ed. London [u.a.]: Palgrave.

Siddique, A., Noorulhasan Naveed, Q., Kraiem, N. and Aref Abdul Rasheed, M. (2024), 'Investigating Critical Success Factors for Effective Management of IT Projects', *IEEE Access,* Vol.12, pp. 166717–166729. DOI: 10.1109/ACCESS.2024.3494613.

Other indicative reading:

Owolabi, H.A., Bilal, M., Oyedele, L.O., Alaka, H.A., Ajayi, S.O. and Akinade, O.O. (2020), 'Predicting Completion Risk in PPP Projects using Big Data Analytics', *IEEE Transactions on Engineering Management,* Vol.67, No.2, pp. 430–453. DOI: 10.1109/TEM.2018.2876321.

Administrative Information

For office use only	
Initial approval date	12/07/2019
With effect from date	23/09/2019
Date and details of revision	01/2026 Modification to assessment strategy and updates to module aims, syllabus and bibliography.
Version number	2