WM382-15 Business Analytics & Visualisation

24/25

Department
WMG
Level
Undergraduate Level 3
Module leader
Avleen Malhi
Credit value
15
Module duration
11 weeks
Assessment
100% coursework
Study locations
University of Warwick main campus, Coventry Primary
Distance or Online Delivery

Description

Introductory description

With the ever growing mass of digital data available in every business, large amount of information remains hidden in the data. This information can now be extracted with the help of data analysis (descriptive analytics) to provide a sound and objective support for forecasting predictions (predictive analytics) and related decisions (prescriptive analytics) in business. Business analytics & visualization is the art and science of extracting information from business data and presenting it with suitable graphical tools to provide a sound and objective basis to the decision process.

Module web page

Module aims

This module aims to provide students with the ability to create mathematical models of realistic managerial situations and use them to support the decision process. The module is also intended to give enough foundational concepts, so that students will be in a position to discuss with experts in the field about latest advances and their possible application to solve managerial situations

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

DESCRIPTIVE ANALYTICS - Introduction to basic business analytics with Excel; Data manipulation

PREDICTIVE ANALYTICS - Forecasting Methods & Measures of Forecast Error

PRESCRIPTIVE ANALYTICS - Linear programming

Learning outcomes

By the end of the module, students should be able to:

- Distinguish between the different forms of analytics and describe their respective use cases.
- Critically evaluate business scenarios and determine the appropriate analytical solution.
- Implement appropriate analytical solutions, such as statistical analysis, time series analysis, or optimisation, to solve a range of problems.
- Produce reports to communicate analytical solutions effectively and efficiently to a critical audience of non-specialists.

Indicative reading list

Sharda, R. (2018) Business intelligence: managerial perspective. Fourth, Global edition. Harlow, England: Pearson.

Cox, D. R. and Donnelly, C. A. (2011) Principles of applied statistics. Cambridge: Cambridge University Press.

Ross, S. M. (2021) Introduction to probability and statistics for engineers and scientists. Sixth edition. London, United Kingdom: Academic Press.

Albright, S.C. & Winston, W.L. (2020) Business analytics: data analysis and decision making, Seventh edn, Cengage, Boston, MA.

View reading list on Talis Aspire

Subject specific skills

Students will be able to demonstrate a high competency level in:

Data Analysis;
Data Visualisation;
Statistical Analysis;
Advanced MS-Excel Usage;

Transferable skills

Team Working;
Communication skills ;
Problem solving;

Study

Study time

Type	Required
Lectures	15 sessions of 1 hour (10%)
Seminars	6 sessions of 1 hour (4%)
Practical classes	9 sessions of 1 hour (6%)
Work-based learning	30 sessions of 1 hour (20%)
Online learning (scheduled sessions)	3 sessions of 1 hour (2%)
Private study	27 hours (18%)
Assessment	60 hours (40%)
Total	150 hours

Private study description

Self-guided study, revision of module contents.
Additional research for PMA completion.
Explore advanced features of Microsoft Excel and related software suites for Business Intelligence applications.
Identification of suitable scenarios in the workplace for the application of classroom learning such as analytical reports, or optimisation problems and how they are modelled.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A2

	Weighting	Study time	Eligible for self-certification
Business Analytics & Visualisation Written Report	100%	60 hours	Yes (extension)

The written report will consist of mini-reports and projects involving data analysis problems related to exploratory analysis, visualisation, predictive and prescriptive analytics.

Feedback on assessment

Feedback will be given as appropriate to the assessment type:
– verbal formative feedback on lab activities related to in-module assessment.
– written summative feedback on post module assessments.

Availability

Courses

This module is Core for:

- Year 3 of DWMS-H652 Undergraduate Digital and Technology Solutions (Data Analytics) (Degree Apprenticeship)