

Financial Data Analysis

Credit Points: 5

Assessment Weighting: 50% Coursework
50% Exam

Module aims and objectives

This module is designed to broaden the learner's knowledge with particular emphasis on the software used to analyse data. The module builds on previous spreadsheet skills by focusing on data specific analysis and related tools. It also is designed to help learners become aware of the ever-increasing discipline of data analytics and business intelligence used by the organisation.

Minimum intended module learning outcomes

On successful completion of this module, learners are able to:

- (i) Express the critical role of best practice in relation to financial data analysis
- (ii) Use spreadsheets efficiently in order to process data and analyse the information derived from this processed data
- (iii) Choose the most suitable tools to analyse data given a specific data set / decision process
- (iv) Describe data analytics and related business intelligence tools used in the modern organisational environment
- (v) Identify and explain the critical issues involved in data processing, systems and trends in a modern organization.

Information provided to learners about the module

Learners enrolled on this module initially receive a copy of the module descriptor, assessment briefs and assessment strategy. These materials are given directly by the lecturer but also by the year head as part of the Semester Schedule Handbook for award stage modules of the programme. All content is provided on Moodle as well as access to additional content through the library and online resources.

Module content, organisation and structure

Data Analytics:

- Data, information, knowledge and decision making
- Databases, data types and graphical tools
- What is data analytics and why is it so important?
- Business Analytics and Corporate Strategy
- Role of Business Analytics in organisational functions and processes
- Data analytics and Predictive Modelling, Predictive Analytics
- Linear Regression
- Data and Text Mining
- Data Science
- Big Data tools
- Business Intelligence and Dashboards
- Web Analytics
- Machine Learning
- Statistical Learning

Systems used in Data Analytics:

- Software options for Data Analytics (Tableau, MS Power BI, Looker, SiSense)
- Evaluating systems for Data Analytics

Trends and Ethics

- Contemporary trends in Data Analytics
- Ethical Data Science and Data Governance
- Impact of Business Data Analytics in Society

Spreadsheet Competencies for large data

- Data Analysis and Business Modelling using Excel
- Financial functions
- Importing / Exporting data files from / to Excel
- Data Analyst tools (SumIF, IF, advanced filtering / sorting large data files, conditional formatting)
- Data Cleaning (removing duplicates, data display conversion, Trim function to clean data)
- Data Mining in Excel (using the 'data mining' add-on in Excel)
- Using Multiple Regression (regression analysis) in Excel for Predictive Analysis
- Data Validation
- Organising data for effective analysis (freezing, grouping, consolidation, etc.)
- Outlining data
- Goal Seeking

- Scenarios
- Data Tables (one input and two input)
- Solver
- Data Slicers
- Dashboards and Charts
- Pivot Tables

Module teaching and learning (including formative assessment) strategy

This module is delivered through a series of lectures and computer lab sessions. Computer-based demonstrations in lectures enable learners to acquire the necessary knowledge and understanding of module material. Directed exercises and assignments are allocated on a regular basis for completion in the labs and also outside of class. Learners are advised on how to undertake the exercises and assignments and are directed and supervised during the completion of their coursework. Regular feedback also provides guidance and support.

E-learning

Learners are also stimulated by other online exercises and quizzes which they can access outside the class. The lab demonstrations, in particular, encourage learners to become self-directed in managing their own learning online and to help them find the information they require. Moodle, the college VLE, is extensively used to provide class notes and exercises. Online classes and seminars are provided for learners undertaking the ‘Blended Learning’ courses.

Reading lists and other information resources

Primary Reading

Manohar, H.L. (2017) *Data analysis and business modelling using Microsoft Excel*. Upper Saddle River, NJ: Prentice-Hall.

Williams, G. (2016) *Business Intelligence Strategy and Big Data Analytics*, 1st Edition. Redmond, WA: Microsoft Press.

Winston, W. (2019) *Microsoft Excel Data Analysis and Business Modelling (Business Skills)*. Microsoft.

Module summative assessment strategy

Initial summative assessment takes place through an individual case study assignment. The final element of the assessment is a closed-book examination.

The assessed work breakdown is indicated in the table below.

No.	Description	MIMLOs	Weighting
1	Assignment Spreadsheets	(ii), (iii)	50%
2	Examination	(i), (iv), (v)	50%