# IB122-15 Business Analytics

## 22/23

**Department**
> Warwick Business School

**Level**
> Undergraduate Level 1

**Module leader**
> Katy Hoad

**Credit value**
> 15

**Module duration**
> 10 weeks

**Assessment**
> 30% coursework, 70% exam

**Study location**
> University of Warwick main campus, Coventry

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## Description

### Introductory description

Business Analytics is used by companies committed to data-driven decision-making. It is the practice of methodical and intelligent exploration of an organisation's data to gain insight and drive business strategy and operational decisions

[Module web page](#)

### Module aims

The overall aim of this module is to enable students to develop an analytic mind-set and give them a basic data literacy useful for the business environment. The module aims to give students an understanding of the three main types of business analytics:

Descriptive analytics – provide insight into the past and answer the question "what has happened?"
Predictive analytics – use of quantitative data modelling techniques to provide insight into the future and answer the question "what might happen?"
Prescriptive analytics – investigate the actions needed to achieve predicted desired outcomes and answer the question "what should I do?"
Teaching is via lectures and workshops with an emphasis on solving real-life problems using case study material. The workshops offer students the opportunity to apply the concepts introduced in

the lecture material. Assessment is via examination and assignment, offering students the opportunity to demonstrate their ability to understand and apply the material to relevant problems.

## 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.

An introduction to descriptive, predictive and prescriptive analytics.
Statistical and mathematical modelling of 'real' business data to answer descriptive, predictive and prescriptive business questions.

## Learning outcomes

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

- Be able to describe the 3 main types of analytics (Descriptive, Predictive and Prescriptive) and understand their importance in the business decision making process
- Be able to demonstrate familiarity with basic quantitative analytic concepts and some specific business analytic techniques, e.g. statistical modelling of multivariate data, mathematical programming and optimisation methods for decision making.
- Use appropriate software to analyse business data and carry out some of the more common descriptive, predictive and prescriptive analytic methods/techniques, e.g. statistical modelling of multivariate data, mathematical programming and optimisation methods for decision making.
- Understand and interpret the output / results of such analytic techniques in a business context.
- Problem solving skills.
- Critical and logical thinking.
- Analytical mindset.

## Indicative reading list

Illustrative bibliography: Evans, J. (2016) 2nd - Edition, Business Analytics: Methods, Models and Decisions, Pearson, ISBN: 9781292095448. Powell, S.G & Baker, K.R. (2017), 5th Edition, Business Analytics: The Art of Modeling With Spreadsheets, Wiley, IBSN:9781119298427. Schniederjans, M.J. & D.G & Starkey, C.M. (2014), Business Analytics Principles Concepts and Applications: What, Why and How, Pearson, ISBN: 9780133552188. Albright S.C. & Winston W.L. (2015), 5th Edition, Business Analytics: Data Analysis and Decision Making, Cengage Learning, ISBN:9781133629603. Jank, W. (2011), Business Analytics for Managers, Springer-Verlag, ISBN: 9781461404057. Hillier, F. (2015) Introduction to Linear Programming: Introduction to operations research. United Kingdom: McGraw-Hill, pp.25- 70. Denardo, E.V., (2011). Linear programming and generalizations: a problem-based introduction with spreadsheets (Vol. 149). Springer Science & Business Media, Chapter 1 (pages 3-11), Chapter 2 (pages 33-63).

## Subject specific skills

Be able to apply some practical real world analytical approaches for business decision making /

problem solving. Have developed a working knowledge of appropriate analytical software.

## Transferable skills

Problem solving skills. Critical and logical thinking. Analytical mindset. Competency in understanding and producing numerate / quantitative communication. Developed a basic data literacy useful for the business environment.

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# Study

## Study time

| Type | Required |
|------|----------|
| Lectures | 10 sessions of 1 hour (7%) |
| Seminars | 9 sessions of 1 hour (6%) |
| Online learning (independent) | 10 sessions of 1 hour (7%) |
| Private study | 48 hours (32%) |
| Assessment | 73 hours (49%) |
| Total | 150 hours |

### Private study description

Private Study.

## Costs

No further costs have been identified for this module.

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# Assessment

You do not need to pass all assessment components to pass the module.

## Assessment group D9

| | Weighting | Study time |
|------|-----------|------------|
| Group Work (15 CATS) | 30% | 22 hours |
| Examination | 70% | 51 hours |
| Exam | | |

~Platforms - AEP

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|  | **Weighting** | **Study time** |
|---|---|---|

- Answers provided on Question Paper. No Answerbook required
- Students may use a calculator
- Graph paper

## Feedback on assessment

Marker's comments on typical errors are posted to my.wbs.

[Past exam papers for IB122](#)

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# Availability

## Pre-requisites

To take this module, you must have passed:

- Any of

  - [IB149-15 Introduction to Statistics](#)
  - [IB150-15 Foundations of Data Analysis for Management](#)

## Post-requisite modules

If you pass this module, you can take:

- IB2B2-15 Financial Econometrics
- IB320-15 Simulation
- IB3M5-15 Advanced Analysis for Marketing Decisions

# Courses

This module is Core optional for:

- Year 1 of UGEA-RN21 Undergraduate German and Business Studies
- Year 1 of UIPA-L8N1 Undergraduate Global Sustainable Development and Business