



THE UNIVERSITY OF  
SYDNEY

# **Business Analytics Course: Data-Driven Decision-Making**

*Centre for  
Continuing Education*

# Business Analytics Course: Data-Driven Decision-Making

In today's business environment, data is everywhere. But collecting data and actually using it to make smarter decisions are two very different things. This hands-on business analytics course gives you the frameworks, tools, and confidence to bridge that gap, turning raw data into clear insights, and clear insights into better decisions.

Designed for professionals, this intensive one-day course takes you through the full analytics journey - from understanding what your data is telling you today, to predicting what is likely to happen tomorrow, to recommending what your organisation should do next. You will work with real datasets, industry-relevant tools, and practical frameworks you can apply in your workplace from day one.

You will learn to think analytically, communicate findings to non-technical audiences, evaluate the ethical implications of data-driven decisions, and navigate the rapidly evolving role of AI in analytics. The analytical tools covered can be applied to data generated within operations, sales, marketing, finance, human resources and customer functions.

## Prerequisites

This course requires basic Excel skills.

## Intended audience

This course is intended for people without prior knowledge of analytics who are keen to use data to make better informed decisions and persuade others with insights derived from objectively prepared data.

This course will assist people interested in analytics from all backgrounds. You may be progressing towards management, be a new manager, or a manager with many years of experience across any of the following fields:

- Sales & marketing professionals
- Customer Experience Officers/Managers
- Supply chain/ Logistics/Operations Managers
- Finance Officers/Managers
- Business Managers
- Business Analysts
- General Managers
- anyone who wants to develop their data skills.



### Course duration

1 session, 8 hours total



### Time

9am - 5pm



### Format

Face-to-face  
or  
Online in real-time



### Dates

Browse available  
[course dates](#)



## Upon completion

Every participant receives a University of Sydney statement of completion.



## Aims

This aims of this course are to:

- introduce you to the world of business analytics with evidence based and data-driven decision-making
- instruct you how to perform a range of analytics techniques across a wide range of organisational settings
- assist you to understand the role of software in facilitating the implementation of analytics techniques
- assist you with extracting insight from data and telling an evidenced based story
- address information privacy and ethics considerations with the use of data
- examine the future of business analytics with Artificial Intelligence assisted technology.



## Outcomes

By the end of this course, you should be able to:

- discern the best type of data for making an evidenced-based decision
- decide how to best store and access data, taking into account cybersecurity, privacy and ethics considerations
- perform a range of analytics tasks across a wide variety of organisational settings
- decide the type of software that can best assist you when applying analytics techniques to a business problem
- tell data-driven stories by extracting pertinent insight from data
- prepare for future use of data with Artificial Intelligence assisted technology.





## Content

### Module 1: Business analytics fundamentals

- The distinction between analytics, data science and statistics
- The 4 levels of business analytics - descriptive, diagnostic, predictive and prescriptive
- The business analytics cycle - from discovery through to operationalisation
- Exercise - working through the full analytics cycle from defining the business problem to data modelling and interpretation

### Module 2: Data types, storage and access

- Nature of data - metric and non-metric variables
- Types of data - structured, semi-structured, and unstructured data
- Data storage architectures - data warehouse, data lake, and data hub
- Accessing data - relational databases and SQL versus non-relational databases and NoSQL
- Relational database design - primary keys, data elements, data types, and data domains
- Data governance - data dictionaries and data catalogues
- Exercise – data preparation, pivot table analysis, visualisation, and interpretation

### Module 3: Data Insights with analytics

- Principles of data visualisation for business decision-making
- Key considerations for effective data visualisation
- Chart selection - eight relationship categories and when to use each
- Principles of storytelling – the Situation-Complication-Resolution framework
- Data insights with non-numerical data
- Exercise - text analytics: transforming unstructured sentiment data into a visual story

### Module 4: Ethics, information privacy, bias and data governance

- Ethics in an analytics context - the three practical questions every analytics professional should ask
- Online behavioural targeting
- Information privacy
- Secure data management
- Algorithmic bias
- Practical decision-making framework for analytics professionals
- Activity – ethical dilemmas: applying the framework to analytics scenarios

### Module 5: The future of analytics with AI

- What AI means for business analytics professionals
- Three types of AI relevant to analytics practice - machine learning, natural language processing, and generative AI
- What AI is changing and what it is not: the skills that become more valuable in an AI-enabled analytics environment
- Where analytics is heading



*“The program provides a range of scenarios across different business models. Good course as a refresher for those returning back to analytics, or for individuals wanting an introduction. The lecturer was very knowledgeable and provided great examples that brought the program to life and got the class thinking.”*

**Rachel Pirc**



*“Great refresher on how to analyse data in different ways and tips to convey informed decisions.”*

**Leanna Roberts**



### **Delivery style**

Delivered as a one-day workshop using various techniques including lectures, analytical thinking, break-out discussions and exercises, as well as demonstrations using practice datasets.

### **Materials**

Course materials (presentation and datasets) are shared electronically using Dropbox.

### **What you need to do before the course**

#### **Face-to-face classes**

Please bring your own laptop with Excel pre-installed.



### **Organisational training and development**

This course can be delivered as a private session for groups, and tailored to meet the needs of your business. Contact us to discuss our range of organisational training solutions.

[Learn more](#)



THE UNIVERSITY OF  
**SYDNEY**

We recognise and pay respect to the Elders and communities – past, present, and emerging – of the lands that the University of Sydney's campuses stand on. For thousands of years they have shared and exchanged knowledges across innumerable generations for the benefit of all.

Empower ambition,  
*inspire leadership*

**For more information**

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