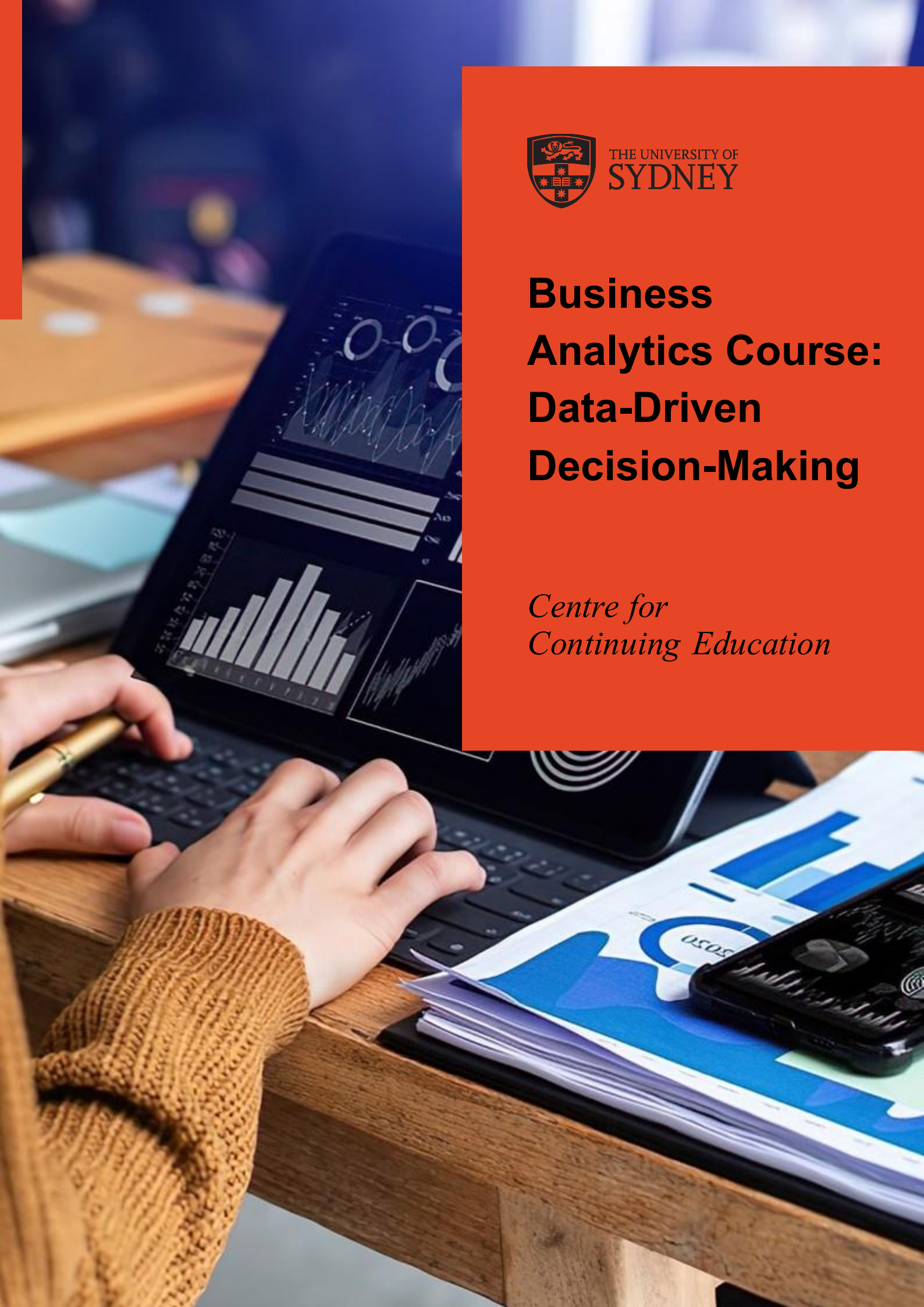




THE UNIVERSITY OF  
SYDNEY

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

*Centre for  
Continuing Education*



# Business Analytics Course: Data-Driven Decision-Making

Are you data-informed or data-driven? This business analytics course will help build your skills so you can perform a greater role in today's data-driven world by using data to assist with more informed decision-making.

You will learn how to discern the best data available and ways of transforming and manipulating data to ensure that it is in the best format for processing.

You will then be trained in a range of skills that encompass descriptive, predictive and prescriptive analytics techniques. In so doing, you will also receive demonstrations on how to apply each of these types of analytics methods with contemporary software.

A key focus of the course is analytics applications, to ensure you leave the course with a set of skills and action steps for applying your newly developed analytics skills within your workplace or study. The analytical tools covered can be applied to data generated within operations, sales and marketing, finance, human resources and customer functions.

## 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 certificate 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 descriptive, predictive and prescriptive 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 cybersecurity, privacy and ethics considerations with the use of data
- examine the future of data extraction with Artificial Intelligence assisted technology.



## Outcomes

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

- analyse data to assist with solving problems and decision-making in organisations
- critically review, then quantify the benefits and costs associated with an initiative
- develop a set of metrics for measuring performance within each functional area in an organisation
- make informed quantitative judgements
- utilise a set of predictive analytics tools



## Content

### Topic 1: Descriptive, predictive, prescriptive analytics

- The distinction between Analytics, Data Science and Statistics
- The types of Analytics – Descriptive, Predictive, Prescriptive
- Descriptive, Predictive, Prescriptive Analytics – Examples across Commercial, NGO and Govt settings

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

- Data types – structured, semi –structured, unstructured
- Data types – metric, non-metric, ordinal etc
- Data storage – data base, data hub, data lake
- Accessing data – SQL, NoSQL
- Data dictionary
- Activity 1 – Correct code with Javascript (JSON), which is a scripting language that is commonly used for web pages
- Activity 2 – Use superstore data for creating a data dictionary

### Topic 3: Analytics applications

- Social media/ marketing analytics – real world examples
- Activity 3 – social media/ marketing analytics and campaign evaluation
- Financial analytics – real world examples
- Activity 4 – financial analytics and distinction between correlation and causation



## Content

### Topic 4: Data Insights with analytics

- Principles of data visualisation
- Principles of story telling
- Activity 5 – Storytelling based on data visualisations
- Data insights with non-numerical data
- Text data (Meaning Cloud in Excel) - Note: Meaning Cloud is a “Software as a Service” product that enables semantic processing.
- Image data (demonstration with Orange software) – Note: Orange software is an open-source data visualisation, machine learning and data mining toolkit.
- Activity 6 – Storytelling

### Topic 5: Ethics, privacy & data security

- Ethical considerations of innovation using analytics
- Demonstration with worked examples
- Cybersecurity governance considerations
- SaaS, PaaS, IaaS, XaaS
- Essential 8 of the Australian Signals Directorate

### Topic 6: The future of analytics with AI

- Transformers/ Neural Networks
- Generalist Agents
- Perceivers
- Deep Generative Models
- Provide worked example



*“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**



## 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**

Centre for Continuing Education  
+61 2 7255 1577

[cce.sydney.edu.au](http://cce.sydney.edu.au)

#### **Follow us**

 [@ccesydney](https://www.facebook.com/ccesydney)

 [@centreforcontinuingeducation](https://www.youtube.com/@centreforcontinuingeducation)

 [ccesydney](https://www.linkedin.com/company/ccesydney)