



THE UNIVERSITY OF
SYDNEY

Python Programming Course: Data Analytics

*Centre for
Continuing Education*



Python Programming Course: Data Analytics

The ability to extract useful insights from big datasets is one of the most valuable skills in today's knowledge economy. Python's extensive library of functions and user-friendly development environments make it easy to clean, combine, analyse, and visualise data from a variety of sources. The creation and distribution of routine reports can also be automated, saving valuable time.

This is a practical, learn-by-doing course. With expert guidance and support, you will develop your own Python script to automate the management, analysis, visualisation, and reporting of a real-world dataset (provided).

This course is the second of a two-part *Introduction to Python* series. We recommend enrolling in both courses to gain entry level skills, however enrolment in both courses is not compulsory.

If you are unsure which course level is right for you, please use the [CCE Python self-assessment tool](#).

Intended audience

Suitable for professionals, students and academics who want to develop more advanced Python skills and get a taste of Python's extensive data analysis and visualisation capabilities.

Before the course

Anaconda Python Version 3.x is required and should be downloaded free of charge from [Anaconda](#) before class.

Materials

Training materials, including a mixture of step-by-step instructions, examples and exercises are provided electronically. These materials will serve as a useful reference when working with Python in future.



Course duration

1 session, 8 hours total



Time

9am - 5pm



Format

Face-to-face
or
Online in real-time



Dates

Browse available
[course dates](#)

Prerequisites

It is assumed you have computer and data literacy knowledge to the level of performing basic data analysis tasks, i.e., high school algebra, percentages, probability, averages, have completed [Python Programming Course: Fundamentals](#) or have equivalent knowledge.



Upon completion

Every participant receives a University of Sydney statement of completion.



Aims

In this course, you will build on the fundamental Python programming skills acquired in the [Python Programming Course: Fundamentals](#) and learn to apply them to contemporary data analytics: managing and analysing data, and visualising and publishing insights to inform decision-making.



Outcomes

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

- import data from different sources, including files and databases
- manage data using the Python Data Analysis Library (Pandas)
- perform descriptive and predictive analyses
- create basic graphs and visualisations
- automate the creation of routine reports.



Content

- Reading data from files and databases
- Working with Pandas data structures (Series and DataFrames)
- Cleaning, indexing, querying, sorting, aggregating and merging
- Descriptive and predictive data analysis
- Data visualisation
- Automating the creation of Word and PDF reports



“The facilitator showed expert knowledge and instruction. He was responsive to any questions regardless of complexity and freely shared his experiences in real world scenarios.”

Joseph Thompson



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.

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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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cce.sydney.edu.au

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