



THE UNIVERSITY OF
SYDNEY

Python Programming Course: Fundamentals

*Centre for
Continuing Education*



Python Programming Course: Fundamentals



Python is one of the most in-demand technical skills and one of the easiest programming languages to learn. With a syntax similar to the English language, Python is an ideal choice for beginners. It has a wide range of applications, from web development to data analytics and visualisation.

This course is the first 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.

This course covers the fundamentals of Python syntax and general computer programming. It does not cover data analytics and visualisation with Python - this is covered in [Python Programming Course: Data Analytics](#).

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, academics and members of the public who want to learn programming foundations.



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 in Excel, i.e. basic (high school) algebra, percentages, probability, averages. No prior programming experience is required.



Upon completion

Every participant receives a University of Sydney statement of completion.



Aims

This course aims to teach basic programming skills using Python, including variable types, operations, user input/output, logic, loops and functions.



Outcomes

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

- install Python and additional packages (via Anaconda)
- understand the difference between Python and Anaconda
- find and read documentation for Python libraries and functions
- use Jupyter Notebook to write and run Python code
- work with basic Python data types (string, float, integer, etc)
- work with basic Python collections (list, dictionary, tuple, etc)
- write Python expressions that involve variables, variable assignment, operators, functions
- understand the basics of object oriented programming
- use conditionals and loops
- fix coding errors
- read csv data files into Python using the Pandas package.



Content

- Introduction to programming
- Introduction to Python, Anaconda and Jupyter Notebook
- Finding, installing and loading Python libraries/packages
- Variables and data types
- Writing expressions
- Collections (lists, tuples, and dictionaries)
- Debugging
- Using logic, conditionals and loops
- Creating functions
- Finding and reading documentation
- Basic exposure to object oriented programming
- Reading csv files using pandas package



“Great course. The facilitator was a really informative instructor.”

Madelaine Broadfoot

“Great course to get familiar with the basics of Python.”

Rowan Cave



“The course provided a solid introduction to Python and covered key programming fundamentals like variables, data types, control structures, functions, and basic error handling. The pace was manageable and suitable for beginners.”

Shankar Rajagopal



Before the course

These classes run in a classroom, and you need to bring your own device with Anaconda Python installed. Anaconda Python Version 3.x is required and should be downloaded free of charge from [Anaconda](#) before class. A detailed download guide is provided after course registration.

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.



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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