



This course covers the following topics (any items marked with a * will be covered if time allows):

Working with sets <ul style="list-style-type: none">• Sets versus lists• Examples of set use	Working with JSON <ul style="list-style-type: none">• The JSON module• Loading and dumping data	Attributes <ul style="list-style-type: none">• Instance attributes• Setting attributes on the fly• Class attributes
Dictionaries <ul style="list-style-type: none">• Key/value pairs• Retrieving items• Looping over items	Working with databases <ul style="list-style-type: none">• The PYODBC module• Connections and cursors	Methods <ul style="list-style-type: none">• Instance methods• Different ways to instantiate• Class methods
Functions <ul style="list-style-type: none">• Defining functions• Passing arguments• Optional arguments• Modular programming	Overview of Pandas <ul style="list-style-type: none">• Dataframes and series• Reading/writing dataframes• Filtering, sorting and renaming• Dataframe calculations	Read/write properties <ul style="list-style-type: none">• Getting and setting values• Private underscored variables• Action properties
Comprehensions <ul style="list-style-type: none">• List comprehensions• Generators	Overview of NUMPY (*) <ul style="list-style-type: none">• Shapes, ranks and data types• Slicing arrays• Array operations	Inheritance (*) <ul style="list-style-type: none">• Designing for inheritance• Inheriting classes• Overloading• Using "super"
Scraping websites <ul style="list-style-type: none">• Understanding HTML• The REQUESTS module• Using BeautifulSoup	Power BI and Python (*) <ul style="list-style-type: none">• Getting Python data• Python visuals using dataframes	Dunder methods <ul style="list-style-type: none">• Doc strings• String representations of objects
Working with CSV files <ul style="list-style-type: none">• Reading and writing CSV files• Dictionaries using the CSV module	Introduction to classes <ul style="list-style-type: none">• An example class• Designing properties / attributes• Designing methods	Understanding existing classes <ul style="list-style-type: none">• Viewing definitions• Everything is a class
Working with Excel <ul style="list-style-type: none">• Using OPENPYXL• Workbooks, worksheets and cells• Python for Excel or VBA?	Coding classes <ul style="list-style-type: none">• Simple classes• Instantiating objects	A case study (*) <ul style="list-style-type: none">• Aim of the program• Choosing the objects• Properties or methods?• Implementing your classes

Maximum 6 people per course. Scheduled classroom courses include lunch at a local restaurant; you can see how our online training works [here](https://www.wiseowl.co.uk/). For more information, see <https://www.wiseowl.co.uk/>.