



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

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

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/>.