Syllabus

WEEK 1

Hello Python!

In this module we'll introduce you to the Coursera platform and the course format. Then, we'll dive into the basics of programming languages and syntax, as well as automation using scripting. We'll also introduce you to the Python programming language and some of the benefits it offers. Last up, we'll cover some basic functions and keywords of the language, along with some arithmetic operations.

14 videos, 5 readings, 3 practice quizzes expand

Graded: Module 1 Graded Assessment

WEEK 2

Basic Python Syntax

In this module you'll learn about different data types in Python, how to identify them, and how to convert between them. You'll also learn how to use variables to assign data and to reference variables. You'll deep dive into functions: how to define them, pass them parameters, and have them return information. You'll explore the concepts of code reuse, code style, and refactoring complex code, along with effectively using code comments. Finally, you'll learn about comparing data using equality and logical operators, and

More

14 videos, 9 readings, 3 practice quizzes expand

Graded: Module 2 Graded Assessment

WEEK 3

Loops

In this module you'll explore the intricacies of loops in Python! You'll learn how to use while loops to continuously execute code, as well as how to identify infinite loop errors and how to fix them. You'll also learn to use for loops to iterate over data, and how to use the range() function with for loops. You'll also explore common errors when using for loops and how to fix them.

13 videos, 7 readings, 3 practice quizzes expand

Graded: Module 3 Graded Assessment

WEEK 4

Strings, Lists and Dictionaries

In this module you'll dive into more advanced ways to manipulate strings using indexing, slicing, and advanced formatting. You'll also explore the more advanced data types: lists, tuples, and dictionaries. You'll learn to store, reference, and manipulate data in these structures, as well as combine them to store complex data structures.

16 videos, 15 readings, 3 practice quizzes expand

Graded: Module 4 Graded Assessment

WEEK 5

Object Oriented Programming (Optional)

In this module, you'll be introduced to the concept of object-oriented programming! You'll learn how to build your own classes with unique attributes and methods. You'll get a chance to write documentation for your classes and methods using docstrings. You'll learn all about object instances and object inheritance, as well as how to import and use Python modules to make use of powerful classes and methods. To round things out, you'll also be introduced to Jupyter notebooks, which we'll use to write and execute more complex code.

13 videos, 12 readings, 1 practice quiz expand

WEEK 6

Final Project

In this module, you'll put everything you've learned so far into action! You'll apply a problem-solving framework to tackle a challenging final project: implementing a script that generates a "word cloud" from some text.

You'll formulate a problem statement to understand the challenge, conduct some research to see what options are available, then begin planning how you intend to solve the problem. Lastly, you'll write the code to implement your solution!

More

11 videos, 1 reading expand

Graded: Programming: Final Project: WordCloud