



Python for Data Science and AI

Overview

This course learning of Python with the beginner-friendly self-paced course taught by an expert. Python is one of the most popular languages in the programming and data science world and demand for individuals who have the ability to apply Python has never been higher. This introduction to Python course will take you from zero to programming in Python in a matter of hours—no prior programming experience necessary.

You will learn about Python basics and the different data types. You will familiarize yourself with Python Data structures like List and Tuples, as well as logic concepts like conditions and branching. You will use Python libraries such as Pandas, Numpy & Beautiful Soup. You'll also use Python to perform tasks such as data collection and web scraping with APIs. You will practice and apply what you learn through hands-on labs using Jupyter Notebooks.

Course Objective

By the end of this course,

you'll feel comfortable creating basic programs, working with data, and automating real-world tasks using Python.

What You Will Learn

- Data Science
- Python
- Programming
- Numpy
- Pandas

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Who Should Attend

This course is suitable for anyone who wants to learn Data Science, Data Analytics, Software Development, Data Engineering, AI, and DevOps as well as a number of other job roles.

Prerequisites

No prior programming experience required.

Course Outline

Module 1: Python Basics

This module teaches the basics of Python and begins by exploring some of the different data types such as integers, real numbers, and strings. Continue with the module and learn how to use expressions in mathematical operations, store values in variables, and the many different ways to manipulate strings.

- Your first program
- Types
- Expressions and Variables
- String Operations

Module 2: Python Data Structures

This module begins a journey into Python data structures by explaining the use of lists and tuples and how they are able to store collections of data in a single variable. Next learn about dictionaries and how they function by storing data in pairs of keys and values, and end with Python sets to learn how this type of collection can appear in any order and will only contain unique elements.

- Lists and Tuples
- Sets
- Dictionaries

Module 3: Python Programming Fundamentals

This module discusses Python fundamentals and begins with the concepts of conditions and branching. Continue through the module and learn how to implement loops to iterate

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over sequences, create functions to perform a specific task, perform exception handling to catch errors, and how classes are needed to create objects.

- Conditions and Branching
- Loops
- Functions
- Objects and Classes

Module 4: Working with Data in Python

This module explains the basics of working with data in Python and begins the path of learning how to read and write files. Continue the module and uncover the best Python libraries that will aid in data manipulation and mathematical operations.

- Reading files with Open
- Writing files with Open
- Loading data with Pandas
- Pandas: Working with and Saving Data
- One Dimensional Numpy
- Two Dimensional Numpy
- Simple APIs (Part 1)
- Simple APIs (Part 2)