Python

Modules

Module 1: Introduction to Python Programming

Start your Python journey with the basics. Learn Python syntax, variables, data types, and control structures. Through hands-on exercises and practical examples, gain a solid foundation in programming concepts and develop your problem-solving skills. Explore the power of Python as a versatile and beginner-friendly language, setting the stage for your future Python endeavors.

Module 2: Data Manipulation and Analysis

Dive into the world of data manipulation and analysis using Python. Explore various data structures and learn how to effectively manipulate and transform data using the powerful Pandas library. Discover the essential techniques for data cleaning, aggregation, and visualization. Harness the power of NumPy for efficient numerical operations, and unlock the potential of data-driven insights.

Module 3: Web Development with Python

Embark on a journey into web development using Python. Dive into popular frameworks like Django and Flask to build dynamic and interactive websites. Learn front-end and back-end development techniques, and leverage the power of databases to create database-driven web applications. Master the art of deploying your web projects to make them accessible to users worldwide.

Module 4: Data Science and Machine Learning

This module focuses on data science and machine learning with Python. You will learn data preprocessing techniques, perform exploratory data analysis using pandas and visualization libraries like Matplotlib. You will be introduced to machine learning algorithms and use scikit-learn for model training and evaluation. Additionally, an introduction to deep learning using TensorFlow or PyTorch will be provided.

Module 5: Advanced Topics and Applications

In this module, you will delve into advanced Python topics and explore various applications. You will learn about object-oriented programming, decorators, generators, and context managers. You will gain an understanding of testing and debugging techniques. GUI programming with Tkinter or PyQt will be covered, along with web scraping. Finally, you will apply your knowledge to build a small-scale project or application using Python.