

Introduction

Welcome to our 3-Month Python Programming! This program is crafted to deliver a dynamic and immersive learning experience. Whether you're a beginner or looking to advance your skills, this course equips you with the tools to master Python and apply it in real-world scenarios, from data analysis to web development.

Month 1: Python Basics and Core Concepts

Week 1: Introduction to Python

- Why Python? Exploring Its Versatility and Popularity
- Setting Up Python: IDEs (PyCharm, VS Code) and Virtual Environments
- Writing Your First Python Script
- Basic Syntax, Comments, and Debugging
- Hands-on Projects:
 - Personalize Your First Python Greeting Program
 - Basic Calculator with User Input.

Week 2: Data Types and Control Flow

- Data Types: Integers, Floats, Strings, and Booleans
- Operators: Arithmetic, Logical, Relational, and Assignment
- Control Statements: if, elif, else
- Loops: for, while, and Nested Loops
- Hands-on Projects:
 - Create a Number Guessing Game.

Week 3: Lists, Tuples, and Dictionaries

- Lists and List Methods
- Tuples and Their Use Cases
- Dictionaries and Key-Value Pairs

- Iterating Through Collections
- Hands-on Projects:
- Build a Simple Contact Book Using Dictionaries.

Week 4: Functions and Modules

- Defining and Calling Functions
- Function Arguments and Return Values
- Using Built-in Modules (e.g., math, random)
- Writing and Importing Custom Modules
- Hands-on Projects:
- Develop a Basic Quiz App with Randomized Questions.

Month 2: Advanced Python Concepts

Week 1: File Handling

- Reading and Writing to Text and CSV Files
- Working with JSON Files
- Error Handling While Accessing Files
- Hands-on Projects:
- Create a Log Management System.

Week 2: Object-Oriented Programming (OOP)

- Classes and Objects
- Attributes, Methods, and Constructors
- Inheritance, Polymorphism, and Encapsulation
- Hands-on Projects:
- Build a Library Management System with OOP Principles.

Week 3: Exception Handling

- Understanding try, except, finally
- Custom Exceptions
- Debugging Techniques
- Hands-on Projects:
- Create a File Reader with Comprehensive Error Handling.

Week 4: Python Libraries and Frameworks

- Overview of Popular Libraries (e.g., pandas, matplotlib, numpy)
- Introduction to Python Web Frameworks (e.g., Flask/Django)
- Hands-on Projects:
- Build a Simple Data Visualizer Using matplotlib.

Month 3: Real-World Applications and Advanced Topics

Week 1: Data Analysis and Visualization

- Introduction to pandas and numpy
- Data Cleaning and Transformation
- Plotting with matplotlib and seaborn
- Hands-on Projects:
- Analyze and Visualize Weather Data.

Week 2: Web Development with Flask

- Setting Up a Flask Application
- Building Routes and Templates
- Handling Forms and User Input
- Hands-on Projects:
- Develop a Personal Portfolio Website with Flask.

Week 3: Automation and APIs

- Automating Tasks with os and shutil
- Working with APIs: Sending Requests and Parsing Responses
- Hands-on Projects:
- Build a Weather Application Using an Open API.

Week 4: Capstone Project & Deployment

- Capstone Project Options:
- Build an Expense Tracker with Data Visualization
- Develop a Blog Application with Flask
- Deploying a Python Application on a Cloud Platform (e.g., Heroku)
- Presentation and Feedback Session

Key Features of the Program

- Hands-On Learning: Interactive coding sessions, real-world projects, and peer programming.
- Career-Oriented: Practical knowledge tied to in-demand industry applications.
- Expert Mentorship: Personalized support from seasoned Python developers.
- Portfolio Building: Showcase projects for interviews or freelance opportunities.

Enroll Now to kickstart your journey into Python and unleash the power of programming!