Python Full Stack Development Course

Course Duration: 3 Months

The Python Full Stack Development course enables learners to build end-to-end web applications using Python. This program covers front-end technologies, Python back-end frameworks like Django and Flask, and database integration to deliver modern, scalable, and secure web applications.

Module 1: Core Python Programming

• Introduction to Python, IDE Setup (VS Code / PyCharm)
• Data Types, Variables, Operators, and Control Structures
• Functions, Modules, and Packages
• Object-Oriented Programming in Python
• Error & Exception Handling
• File Handling and Working with JSON

Module 2: Front-End Development

• HTML5, CSS3, and JavaScript Fundamentals
• Responsive UI Design with Bootstrap
• DOM Manipulation and Events
• Front-End Framework – React JS or Angular
• Integrating APIs with JavaScript

Module 3: Back-End Development with Django & Flask

• Introduction to Django Framework Architecture
• MVC Pattern – Models, Views, and Templates
• URL Routing and Request Handling
• ORM in Django and Database Migrations
• Flask Basics for Lightweight Applications
• Authentication and Authorization in Django

Module 4: Database Management

• Relational Database Concepts
• MySQL and PostgreSQL Setup
• CRUD Operations and Query Writing
• Django ORM and QuerySets
• Working with SQLite (Development Environment)

Module 5: REST API Development

• Introduction to REST Architecture
• Building APIs using Django REST Framework (DRF)
• CRUD Operations with REST APIs
• Postman for API Testing
• Token Authentication and Permissions

Module 6: Version Control & Deployment

• Using Git and GitHub for Version Control
• Introduction to Docker for Python Apps
• Deploying Django Apps on AWS / Azure / Heroku
• Environment Variables and Configuration Management
• Continuous Integration/Deployment (CI/CD) Overview

Module 7: Real-Time Project

• Developing a Full Stack Web Application
• Integrating Front-End, Back-End, and Database
• Testing and Debugging
• Final Deployment and Presentation