**Python Full Stack Development**

**Month 1: Introduction to Python and Front-End Development**

Week 1: Introduction to Programming and Python

* + Overview of programming concepts
  + Installing Python and an IDE
  + First Python program

Week 2-3: Python Basics

* + Variables, data types, and operators
  + Control flow (if statements, loops)
  + Functions and basic input/output

Week 4-5: Front-End Development with HTML, CSS, and JavaScript

* + HTML5 and CSS3 basics
  + Introduction to JavaScript and the Document Object Model (DOM)
  + Basic front-end project

Week 6: Introduction to Front-End Frameworks

* + Overview of front-end frameworks (e.g., React, Angular, Vue)
  + Setting up a simple project with a front-end framework

**Month 2: Back-End Development with Python and Flask**

Week 1-2: Introduction to Back-End Development

* + Basics of server-side programming
  + Setting up a Python project for back-end development

Week 3-4: Introduction to Flask

* + Overview of the Flask framework
  + Building a basic RESTful API with Flask
  + Integrating Flask with a front-end framework

Week 5-6: Database Connectivity and Persistence

* + Introduction to databases (e.g., SQLite, MySQL)
  + Connecting a Flask application to a database
  + Implementing CRUD operations with SQLAlchemy

**Month 3: Full Stack Development with Python**

Week 1-2: Connecting Front-End and Back-End

* + Integrating the front-end framework with the Flask back-end
  + Handling data exchange between the client and server

Week 3-4: User Authentication and Authorization

* + Implementing user authentication and authorization in Flask
  + Security best practices

Week 5-6: RESTful API Design Best Practices

* + Advanced topics in RESTful API design
  + Documenting APIs and using Swagger

**Month 4: Advanced Topics and Final Project**

Week 1-2: Advanced Python Features

* + Asynchronous programming in Python
  + Handling exceptions and error responses

Week 3-4: Deployment and Containerization

* + Deployment strategies for Python applications
  + Containerization with Docker

Week 5-6: Final Project and Project Presentations

* + Guided work on a full-stack project
  + Final project presentations and feedback