**Web Development Course Syllabus:**

**Python Django Full Stack 4 months**

**Module 1: Introduction to Web Development**

* Overview of Web Development
* Understanding Frontend and Backend
* Tools and Software Setup
  + Code Editors (VS Code, PyCharm)
  + Browsers and Developer Tools
  + Python and Django Installation
* Understanding HTTP, URL, and Web Servers

**Module 2: Frontend Development**

**HTML (Week 1)**

* Basics of HTML
  + HTML Structure and Syntax
  + DOCTYPE and Basic Tags (<html>, <head>, <body>, <title>, etc.)
* HTML Elements
  + Text Formatting (<h1> to <h6>, <p>, <strong>, <em>)
  + Lists (<ul>, <ol>, <li>)
  + Links and Images (<a>, <img>)
  + Tables and Forms (<table>, <form>, <input>, <button>)
* Semantic HTML
  + <header>, <footer>, <article>, <section>, <aside>, <nav>
* Best Practices in HTML

**CSS (Week 2)**

* CSS Basics
  + Syntax and Selectors
  + Inline, Internal, and External CSS
* Styling Elements
  + Colors, Fonts, and Text
  + Margins, Padding, and Borders
* Box Model
* CSS Positioning
  + Flexbox
  + Grid
* CSS Transitions and Animations
* Responsive Web Design
  + Media Queries
  + Mobile-first Design
* CSS Frameworks (Bootstrap Basics)

**JavaScript (Week 3–4)**

* Basics of JavaScript
  + Syntax and Variables (var, let, const)
  + Data Types, Operators, and Expressions
  + Loops and Conditional Statements
* DOM Manipulation
  + Selecting and Modifying Elements
  + Event Handling
  + Creating Interactive Web Pages
* JavaScript Functions and Scope
* ES6 Features
  + Arrow Functions
  + Template Literals
  + Destructuring

**Module 3: Backend Development**

**Python (Week 5–6)**

* Python Basics
  + Syntax and Variables
  + Data Types and Operators
  + Loops and Conditional Statements
  + Functions and Modules
* Advanced Python
  + File Handling
  + Error and Exception Handling
  + Object-Oriented Programming (OOP)
  + Working with Libraries (e.g., requests, os)
* Introduction to Web Programming with Python
  + Using http.server Module
  + Overview of Frameworks (Django and Flask)

**Django (Week 7–10)**

* Setting Up Django
  + Installation and First Project
  + Django Folder Structure
* Understanding Django Architecture
  + MVT (Model-View-Template) Pattern
* Django Models
  + Creating and Managing Models
  + Database Migrations
  + Querying the Database
* Django Views and URLs
  + Function-based Views
  + URL Mapping and Routing
* Django Templates
  + Template Syntax and Rendering
  + Template Inheritance
* Django Forms
  + Handling Forms
  + Form Validation
* Django Admin Panel
  + Customizing the Admin Interface
* Static and Media Files
  + Serving and Managing Files
* Authentication and Authorization
  + User Authentication System
  + Permissions and Groups
* Building RESTful APIs with Django REST Framework
  + Serialization
  + API Views
  + Authentication for APIs
* Deploying Django Applications
  + Using Gunicorn and Nginx
  + Deployment on Heroku or AWS

**Module 4: Project Development (Week 11–12)**

* Frontend Project
  + Building a Responsive Website Using HTML, CSS, and JavaScript
* Full Stack Project
  + Developing a CRUD Application with Django
  + Integrating Frontend and Backend
* Final Project
  + Designing and Deploying a Complete Django Web Application