

# Python Full Stack Course

## Overview

Duration	80 days
Daily Class Hours	1 Hour
Medium	Online
Platform	Google Meet
Languages	HTML, CSS, Javascript, Python
Framework/Libraries	React JS, Django Rest Framework
Database	SQLite, MySQL, PostgreSQL
IDE / Code Editor	Visual Studio Code

# Syllabus

## Week 1: Overview and HTML

- Introduction to Full Stack Development
- Exploring of what you will learn in this course
- Introduction to HTML
- Elements and Attributes
- Boiler-Plate Structure
- Headings, paragraphs, links, images
- List, Form and Table
- Other Elements and Attributes
- Media Elements
- Symbols
- Semantics

## Week 2-3: CSS

- Introduction to CSS
- Css Syntax and Basic Selectors
- Colors and Units
- Text Styling and Backgrounds
- The Box Model (Margin, Padding, Border)
- Block vs Inline
- Combinators and Grouping
- Floating
- Gradients and Shadows
- Positions and Transitions
- Attributes Selectors
- List, Tables and Form Styling

- Pseudo Classes and Pseudo Elements
- Flexbox and Grid
- Responsive Design
- **Mini Project [Html and Css]**

## Week 4: Bootstrap, Git and GitHub

- Introduction to Bootstrap
- Containers
- Grid system and Breakpoints
- Components and Utilities
- Customization
- **Mini Project [Html, Css and Bootstrap]**
- Github Setup
- Working with Repository
- Multiple Branches in Repository
- Github Codespaces
- Collaboration as a Team on Single Project in Repository

## Week 5-7: Javascript

- Introduction to Javascript
- Variables and Outputs
- Datatypes and Type Conversion
- Operators and Comments
- Conditional Statements and Loops
- Functions and Scope
- String, Array and Object Methods
- Arrow Functions and Higher Order Functions

- Exception Handling and DOM
- Object Oriented Programming
- Encapsulation, Inheritance and Polymorphism
- Local Storage and Json Data Structure
- Asynchronous Javascript
- Callbacks and Promises
- Async/await and Fetch API
- Error Handling & Debugging
- Introduction to Modules & Import/Export

## **Week 8-10: React JS**

- Introduction to Node Js, Npm and React Js
- JSX Structure and Components
- Props and Conditional Rendering
- Array Mapping and Event Handling
- State Management and Form Handling
- UseEffect Hook and Components LifeCycle
- React Router Dom (Routing, URL Params, Nested Routes)
- Rendering Media and Pages
- External and Inline Css
- Lifting state up, prop drilling
- Context API and UseRef Hook
- Custom hooks, Error Boundaries and Optimization
- API Integration with Axios
- **Mini Project [Html, Css, Bootstrap and React JS]**

## **Week 11-12: Python**

- Introduction to Python
- Variables, Input/Output and Comments
- Datatypes and Type Conversion
- Operators and Document Strings
- Conditional Statements and Indentation
- Loops and Range
- Functions and Scope
- String, Array and Dictionary Methods
- List Comprehension
- Lambda Functions
- Higher-Order Functions
- Exception Handling
- Object-Oriented Programming
- Encapsulation, Inheritance and Polymorphism
- Built-In Modules and Custom Modules
- JSON Data Handling
- File Handling
- Pip, Pypi and Virtual Environment

## **Week 13-15: Django Rest Framework and Frontend Integration**

- Introduction to Django and Django Rest Framework
- Project Setup
- Django Apps, Models and Migrations
- Class Based Views and Serializer
- Function Based Views

- Connecting External Sql Databases
- Model View Set
- Generics and Mixins
- Model Relationships
- Pagination and Django Filters
- Django ORM Queries
- Middleware
- Fetching API using Axios
- Organizing Project Folder Structure
- User Login System
- JWT Authentication Setup
- Protected Routes in React

## **Week 16: Final Project**

- Full Stack Project with all content learned from the course
- Deploying Project in Cloud Platform

## **After Course:**

- Certificates will be issued after project submission
- Mentor will help every student to create ATS friendly resume and good profile in popular job portals for better search appearance
- Student will be add to dedicated community where all available job opportunities will be posted.