

# Full Stack Python – Django with React JS Training Syllabus

## Introduction to Python

What is Python?

The application areas of Python

Download and install Python

Execute Python program using command line arguments

Save programs with .py extension and execute it from prompt

## Python Basics

Data types and variables

Operators and operator precedence

Data type conversions

Command line argument

Data input & Output

Comments

Python Flow Control

If statement

If...elif...else statement

Nested if

While loop

For loop

Break & continue

## Python Sequences

String

List

Tuple

Dictionary

Set

## Functions and modules

What is a function?

Define a function

Pass arguments

Arguments with default values

Arbitrary arguments

Keyword arguments

Local and global variables

Return a value from function

Return multiple values

Recursive functions

## Functional Programming

Iterators

Generators

The lambda constructs

Comprehensions

Map, reduce and filter

## Python Modules & Packages

## Python Packages

What is a module?

- Import module using import statement
- Use .. import statement
- Use from ... import\* statement
- Python Math Module
- Random Module
- Date/Time Module
- File Handling

- Reading
- Writing
- File manipulations
- Pickling
- Exception Handling

- What is exception?
- Python built-in exceptions
- Try - Except
- Finally
- Raise exceptions
- Object Oriented Programming (OOPS)

- Introduction
- OOPS Concept & Principles
- Access modifiers
- Abstract Class
- Database programming

- MySQL Connector module installation
- MySQL Query Execution
- CRUD operations
- Front End: - HTML

- Introduction to HTML
- Tags in HTML
- CSS

- Introduction to CSS
- How to add CSS
- CSS selectors
- CSS properties
- Bootstrap

- Introduction to Bootstrap
- How to add bootstrap
- Bootstrap classes
- JavaScript

- Introduction to JS
- How to add JS
- JavaScript Events
- Form validation using JS
- JQuery & AJAX

- Introduction
- JQuery Events

- JQuery Effects
- HTML & CSS manipulation Using CSS
- Introduction to JQuery AJAX
- JQuery AJAX Methods
- React

- Introduction
- Installation
- Architecture
- React Features
- ReactJS - Creating a React application
- Simple application using CDN
- JSX
- Components
- Class Component
- Function Component
- ECMAScript 6
- Arrow Functions
- Variables (let, const, var)
- Array methods (map)
- Spread Operator (...)
- Styling
- Properties
- Events
- Conditionals
- Lists
- Forms
- Router
- React Hooks
- useState
- useEffect
- REST APIs in React
- Fetch API
- Axios
- Introduction to web programming

- Web server
- Web client
- Network Protocols
- CGI Programming
- Django Framework

- Installation
- Configuration
- Model-View-Controller Architecture
- Urls and Views
- Sessions and Cookies
- Database Connectivity
- Form Processing
- Model Forms
- User Registration and Authentication
- Introduction to REST Framework: - REST API, JSON module, Serialization