

Python Full Stack Internship Curriculum (6 Months + Major Project)

Month 1: Programming Foundations (Python Core)

Week 1–2: Python Basics

- Introduction to Programming & Python
- Variables, Data Types
- Operators & Expressions
- Conditional Statements
- Loops (for, while)

Week 3–4: Python Advanced Basics

- Functions & Recursion
- Lists, Tuples, Sets, Dictionaries
- String Handling
- File Handling
- Exception Handling

Mini Task: Student Management Console App

Month 2: Advanced Python & Database

Week 5–6: OOP in Python

- Classes & Objects
- Constructors
- Inheritance
- Polymorphism
- Encapsulation & Abstraction

Week 7–8: Database & SQL

- Database Basics
- MySQL / PostgreSQL
- SQL Queries (CRUD)

- Joins, Indexes
- Python DB Connectivity

Mini Project: Library Management System (Python + DB)

Month 3: Frontend Development

Week 9–10: HTML & CSS

- HTML5 Structure
- Forms & Tables
- CSS3 Styling
- Flexbox & Grid
- Responsive Design

Week 11–12: JavaScript

- JS Basics
- DOM Manipulation
- Events
- ES6 Features
- Fetch API

Mini Project: Responsive Website with Forms & Validation

Month 4: Frontend Framework & Backend Basics

Week 13–14: React JS

- React Introduction
- Components & Props
- State & Hooks
- Routing
- API Integration

Week 15–16: Django Framework

- Django Introduction

- Project & App Structure
- Models, Views, Templates
- Django ORM
- Admin Panel

Mini Project: React + Django CRUD Application

Month 5: Backend Advanced & APIs

Week 17–18: Django Advanced

- Authentication & Authorization
- Forms & Validations
- Middleware
- File Uploads
- Email Integration

Week 19–20: REST APIs

- REST Architecture
- Django REST Framework
- JWT Authentication
- API Testing (Postman)
- Pagination & Filtering

Mini Project: REST API Based Application

Month 6: Major Project & Deployment

Week 21–22: Major Project Development

Major Project Options:

- Job Portal System
- Online Learning Management System
- E-commerce Website
- College ERP System

- Quiz / Exam Portal

Features:

- User Roles (Admin, User)
- Authentication & Authorization
- CRUD Operations
- Database Integration
- REST APIs
- Frontend + Backend Integration

Week 23–24: Deployment & Internship Skills

- Project Deployment (AWS / Render / Netlify)
- Git & GitHub
- Resume Preparation
- Interview Preparation
- Mock Interviews

Tools & Technologies

- Python, Django, Django REST Framework
- HTML, CSS, JavaScript, React
- MySQL / PostgreSQL
- Git & GitHub
- Postman
- VS Code

Internship Deliverables

- Weekly Assignments
- Mini Projects
- Major Project (Live)
- Internship Certificate

- Project Documentation

Final Outcome

- Strong Python Full Stack Skills
- Real-time Project Experience
- Job-ready Portfolio
- Interview Confidence