

Python Django 2-Month Modular Course Syllabus (Sunday to Thursday)

Course Duration: 8 Weeks

Schedule: Sunday to Thursday

Level: Basic to Mid-Level

Week 1: Introduction to Python (Refresher)

- **Day 1:** Introduction to Python, Django Installation, Setting Up Environment
- **Day 2:** Folder Structure, commands to create modules and setup
- **Day 3:** Variables, Data Types, Input/Output, Control Structures (if, else, elif, switch)
- **Day 4:** Loops (for, while), Loop Control Statements
- **Day 5:** Functions, Modules, and Packages and Create a simple custom html template and run the project

Week 2: Core Database Session

- **Day 6:** Database connection using MYSQL
- **Day 7, Day 8 and Day 9:** DDL, DML, DQL and DCL
- **Day 10:** Database Joins and how to manage a database

Week 3: Django Fundamentals

- **Day 11:** Django Architecture, MVC vs MVT
- **Day 12 and Day 13:** URL Routing and Views
- **Day 14 and Day 15:** Session management, Templates and Template Tags

Week 4: Working with Databases

- **Day 16:** Introduction to Django ORM
- **Day 17:** Models: Defining and Using
- **Day 18:** Database Migrations
- **Day 19:** Django Admin Interface
- **Day 20:** CRUD Operations with Django ORM

Week 5: Forms and User Authentication

- **Day 21:** Django Forms and ModelForms
- **Day 22:** Handling Form Validation and Exception handling
- **Day 23:** Token based User Authentication System
- **Day 24 and Day 25:** Permissions and Authorization

Week 6: Advanced Django Concepts

- **Day 26:** Class-Based Views (CBVs) vs Function-Based Views (FBVs)
- **Day 27:** Working with Static Files and Media
- **Day 28:** Sending Emails with Django
- **Day 29 and Day 30:** Introduction to Django REST Framework (DRF) for API development using Postman

Week 7: Mid-Level Django Development

- **Day 31:** Pagination and Filtering
- **Day 32 and Day 33:** Advanced Querying with Django ORM
- **Day 34:** Middleware
- **Day 35:** Optimizing Django Applications

Week 8: Final Project & Deployment

- **Day 36:** Project Planning and Setup
- **Day 37:** Building Core Features
- **Day 38:** Integration and Testing
- **Day 39 and 40:** Final Project Presentation and Review

Deliverables:

- Weekly assignments
- Mid-course mini-project
- Final project with code review

Tools & Technologies:

- Python 3.x
- Django 4.x
- Django REST Framework
- Git & GitHub
- MySQL