COURSE SYLLABUS

Python Web Development with Django

Learn Django, a Python web framework, for developing web applications. Gain experience with URL dispatchers, querying models, and automating tasks with Django. Then, explore Django REST, another Django framework, to work with images, authentication, and API endpoints.

> Group classes (Live Online) and onsite training are available for this course. For more information, email onsite@graduateschool.edu or visit: https://sdfm.graduateschool.edu/courses/python-django-development



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Course Outline

Intro to Python

Introduction to Python

- Variables
- Numeric Data Types: Int & Float
- Sequential Types: Str & List
- If-Elif-Else Statements
- Creating Python Scripts/Files
- Definite loops: For loops
- Indexing
- Slicing

Advanced Data Types in Python

- Data Types: tuples
- Dictionaries
- Reading and Writing txt and csv files

Writing Iterative Code and Algorithms

- Indefinite loops: while loops
- Runtime complexity
- Searching and sorting algorithms
- Custom functions in Python
- Args and Kwargs
- Importing files

Object Oriented Programming with Python

Introduction to Object Oriented Programming

- Classes
- Methods
- Inheritance
- Abstract Classes

Working with APIs

- RESTful architecture
- Working with APIs
- Request library

Introduction to Developer Tools and SQL

- Assert statements
- Testing
- Git
- Intro to SQL
- CRUD

Introduction to Django

Introduction to Back-End Web Development using Django

- HTTP protocol
- MVC model
- Virtual environment
- Django structure
- Generic Views
- HTML templates
- URL dispatcher

Advanced Django for Web and Automation

- Custom Views
- GET and POST methods
- URL shortener
- User model
- Logic in templates
- Querying models
- Serving Staticfiles
- Deployment of Django
- Automating tasks with Django

Django REST

Building Web APIs using Django REST

- Generic Views in Django Rest
- Serializers

- JSON
- Building RESTful APIs
- Filtering Models
- Working with Images
- Authentication with tokens
- Postman
- Related models
- Contenttypes app

Deploying Web APIs

- Using API endpoints
- Deployment of Django REST project

Capstone Project and Career Support

Final Project and Presentation

- Concept presentation
- Approval by committee
- Working on the project
- Intermediate report to committee
- Finishing the project

Preparing to enter the job market

- Resume review and mock interviews
- Understanding the job market
- How to identify the right company for you
- Final presentation of working project