

Course syllabus

This is a beginner course for learners who would like to prepare themselves for a career in Django development.

Prerequisites

To succeed in this course, you are required to have a fundamental knowledge of the following:

HTML and CSS

Python

MySQL

You also require basic internet navigation skills and an eagerness to get started with coding in Django!

By the end of the course you will be able to:

Design a Django web application using Python, HTML and CSS.

Describe and implement the HTTP request response cycle by creating views, routes and templates.

Describe and build a data model to create database tables and dynamic web forms.

Explore the Django Template Language to create dynamic webpages that display data stored in a database.

Create, share and test your web application by using industry standard best practice and guidelines.

Course background

The course is structured around the fictional Little Lemon restaurant.

The website was designed and coded with HTML and CSS and is currently presented as a single page.

The restaurant owners Mario and Adrian want to explore the possibility of creating a database driven web application using the Django framework.

The owners would like to store the menu information in a database that can be updated by managers as the menu changes seasonally.

They have asked you to create a prototype of this website using the Django framework.

Course content

Each module intends to equip you with the knowledge and skills needed to guide you through the process of creating a web application with the Django framework.

During this course, you'll cover everything you need to begin web development with Django. What to expect in the four modules is outlined below.

Module 1

In this first module, you will get an introduction to the course where you'll begin with an overview of what Django is and its uses. You'll explore examples of how Django is used in the real world.

Before embarking on any coding, you'll be guided through the process to ensure your computer is set up correctly with Visual Studio Code and the appropriate Python installation for your operating system. There are also some tips on how to take this course successfully.

Next, you'll be introduced to how to create a Django web application and its two components, projects, and apps.

Here, you will acquire and exercise skills using specific command line tools with the commands "Django admin" and "manage.py" through the correct structure. You will conclude this module by expanding upon web frameworks to show the MVT pattern, code reusability, and how Django's project structure is set up to suit this.

After completing the lesson items, you will be able to:

Differentiate between an app and project structure

Learn to use basic commands with django-admin and manage.py.

Create an app inside an existing project using the correct structure.

Use the MVT framework to ensure reusability of code.

Use the DRY principles to organize your code.

Module 2

Views are an important component when creating projects and apps in Django.

In Module 2, you'll learn about what a view is and how to process basic HTTP requests.

Then, you will discover how Django developers use the request and response objects for common operations and how parameters associate with HTTP methods such as GET, PUT, POST and DELETE.

Next, you'll explore the use of regular expressions to create different URL patterns and map URLs to views.

As a developer, it is essential to handle unforeseen errors throughout your development process.

So, you'll learn to handle common HTTP errors at the HTTP, View logic and View levels. Lastly, you will unpack class-based views in Django and how to reuse them across a project.

After completing the lesson items, you will be able to:

Create views and view logic that can process basic HTTP requests.

Use the request and response objects for common operations.

Differentiate parameters and how they associate with HTTP methods such as GET, PUT, POST and DELETE.

Use regular expressions to create different URL patterns.

Map URLs to views.

Handle errors at the HTTP , View logic and View levels.

Use class-based views in Django and reuse them across a project.

Module 3

In the third module, you'll cover Models.

Here, you'll learn how to use the Django admin panel to add and control the permissions of users and groups.

Then, in order to interact with the database, you'll explore how to use the QuerySet API to do this.

Next, you'll create forms and use the Form API to bind data to objects.

You'll conclude this module by learning how to set up a MySQL database and apply migrations to keep your data up to date.

After completing the lesson items, you will be able to:

Create Models.

Apply migrations to appropriate use cases using a best practice approach.

Use the QuerySet API to interact with the database.

Create a form and use the Form API to bind data to objects.

Use the Django admin panel to add and control the permissions of users and groups.

Set up a MySQL database for your Django app.

Module 4

The last module focuses on Templates in Django.

You'll start off by learning to create templates and use the template language to create markup.

Then, you'll explore how to use templating to generate HTML.

Next, you will learn how to integrate third-party libraries into your Django app.

You will end off by exploring debugging and testing in Django.

After completing the lesson items, you will be able to:

Create templates and use the template language to create markup.

Use templating to generate HTML.

Work with Templates.

Module 5: Graded Assessment

In the final week, you'll apply the skills you gained from the course to complete the prototype for the Little Lemon website designed with Django.

You will then move on to complete the final graded assessment.

Finally, you will have the opportunity to reflect on the course content and review the learning path.

After completing the project exercises, you will be able to:

Synthesize your new Django skills to create a website for a local restaurant.

Reflect on what you learned in this course and explore the next steps in your journey.