

Course Curriculum

Python Setup

- Command-line basics
- Getting Started and Installing Python
- Running Python Code

Python Object and Data Structure Basics

- Introduction to Python Data Types
- Python Numbers
- Variable Assignments
- Strings
- Print Formatting with Strings
- Lists
- Dictionaries
- Tuples
- Sets and Booleans
- Files
- Objects and Data Structures Assessment Test

Python Comparison Operators

- Comparison Operators

- Chained Comparison Operators

Python Statements

- Introduction to Python Statements
- if, elif, and else Statements
- for Loops
- while Loops
- Useful-Operators
- List Comprehensions
- Statements Assessment Test
- Guessing Game Challenge

Methods and Functions

- Methods in Python
- Functions in Python
- Function Practice Exercises
- Lambda Expressions, Map, and Filter
- Nested Statements and Scope
- args and kwargs
- Functions and Methods Homework

Milestone Project – 1: Tic Tac Toe game

Object-Oriented Programming

- Object-Oriented Programming – Introduction
- Attributes and Class Keyword
- Class Object Attributes and Methods
- Inheritance and Polymorphism
- Special (Magic/Dunder) Methods
- Object-Oriented Programming – Homework
- Object-Oriented Programming – Challenge Overview

Modules and Packages

- Pip Install and PyPi
- Modules and Packages
- name and “main”

Errors and Exception Handling

- Errors and Exception Handling
- Errors and Exceptions Homework
- Pylint Overview
- Running tests with the unittest Library

Milestone Project – 2: BlackJack Card Game

Python Decorators and Generators

- Decorators with Python Overview
- Generators with Python
- Iterators and Generators Homework

Final Capstone Python Project

Advanced Python Modules(Optional)

- Collections Module – counter
- Collections Module – defaultdict
- Collections Module – OrderedDict
- Collections Module – namedtuple
- Datetime
- Python Debugger – pdb
- Timing your code – timeit
- Regular Expressions -re
- StringIO

Advanced Python Objects and Data Structures(Optional)

- Advanced Numbers
- Advanced Strings
- Advanced Sets
- Advanced Dictionaries
- Advanced Lists
- Advanced Python Objects Assessment Test

Django Level One: Basics

- Introduction to Django
- Django Level One – Part One – Django Setup
- Django Level One – Part Two – Django Project
- Django Level One – Part Three – Django Application
- Django Level One – Part Four – URL Mappings
- Django Level One – Part Five – Templates
- Django Level One – Part Six – Static Files

Django Level Two: Models

- Introduction to Django Level Two
- Django Models Overview
- Creating Models

- Population Scripts
- Models-Templates-Views Paradigm
- Django Level Two Project Exercise

Django Level Three: Forms

- Introduction to Django Level Three
- Django Forms
- Form Validation
- Model Forms
- Model Forms Exercise

Django Level Four: Templates

- Introduction to Django Level Four
- Relative URLs with Templates
- Template Inheritance
- Template Filters and Custom Filters

Django Level Five: Login/Registration

- Django Passwords
- User Models
- Coding User Models and Forms
- Registration
- Logins

Django Deployment

- Introduction to Django Deployment
- Full Deployment Walkthrough on Python Anywhere
- Full Deployment Walkthrough on VPS(AWS/DigitalOcean)
- Full Deployment Walkthrough on Heroku

Advanced Topics: Class-Based Views

- Introduction to CBVs
- Hello World with CBVs
- Template Views with CBV
- Detail View and List View
- CRUD Views

A First Django Project: Blog

Advanced Topics: Customization of Django Admin

- Introduction to Admin
 - Admin Templates
 - Ordering Fields
 - Adding Search
 - Adding Filters
 - Adding Fields
 - Editable List View