COURSE SYLLABUS

Python Developer Certificate

Learn the skills needed to become a Python Developer, from Python programming fundamentals to web development with Django and Django REST. Develop in-demand skills with Django, a popular Python web framework used for back-end web programming, and build a portfolio of projects under the guidance of the lead instructor.

> 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/certificates/python-developer



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Course Outline

This package includes these courses

- Python Programming Bootcamp (30 Hours)
- Python Web Development with Django (60 Hours)
- Python Developer Capstone Projects (Self-Paced) (18 Hours)

Choose two of the classes below as free electives (contact us after registration).

- Python for Data Science Bootcamp
- Python for AI: Create AI Apps with Flask & OpenAI
- Python Data Visualization & Interactive Dashboards
- Python Machine Learning Bootcamp

Python Programming Bootcamp

- Gain a foundational understanding of the Python programming language
- Become a proficient Python programmer by learning from experienced mentors
- Learn how to search and navigate technical documentation and efficiently handle errors and exceptions
- Get comfortable developing Python programs on your own through a series of coding exercises
- Become familiar with industry standards and learn the best practices for writing code
- Master your programming skills by working on real-world projects—perfect for resume building
- Create two projects to showcase in your coding portfolio

Python Web Development with Django

- Automate tasks with Python and Django
- Interact with APIs using REST
- Deploy projects to GitHub using Git

- Build a portfolio of projects throughout the course

Python Developer Capstone Projects (Self-Paced)

Python Web Development with Django Capstone

- Analyze structured datasets (e.g., Stack Overflow Developer Survey) to identify global tech salary trends influenced by factors like location, job role, experience level, and remote work.
- Use pandas for data cleaning and preprocessing (handling missing values, currency conversions, and outliers), and visualize key insights with Matplotlib/seaborn charts, including salary comparisons and remote versus on-site trends.
- Develop an interactive Django web application featuring dynamic salary filtering, interactive charts, and dashboards, using Django models, views, templates, and Bootstrap for front-end styling.

Python for AI Capstone *(Choose One of Two)*

- AI Chat Assistant: Build a Flask and JavaScript-powered AI chat assistant embedded in a live website, integrating OpenAI's API to provide context-aware responses about products or services with client-side session memory.
- Collectibles Identification Web App: Develop an interactive Flask-based web app allowing users to upload images of collectibles, utilizing OpenAI's API for item identification, metadata generation, and dynamic session-based item logging.
- Prepare a professional presentation demonstrating your app's user flow, technical integration (Flask, JavaScript, OpenAI), prompt engineering strategies, insights, limitations, and opportunities for future improvements.