



# Python Programming Course Curriculum

# Python Programming

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## Mission

The first step towards careers in Web Development, Machine Learning, Data Science, AI, and more! This program is perfect for beginners.

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## Course Description

In this course, you'll learn the fundamentals of the Python and how to understand documentation, along with programming best practices. You'll learn to represent and store data using Python, and use conditionals and loops to control the flow of your programs. You'll harness the power of complex data structures like lists, sets, dictionaries, and tuples to store collections of related data. You'll define and document your own custom functions, and write scripts. The would-be supported by building real-world projects utilising these data structures and best project development practices. Lastly, you'll learn to build a scraper and use it as a utility for a Python-based backend built on Flask.

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## Prerequisites

- General Requirements

You are enthusiastic and motivated to learn. Participation in this course requires consistently meeting project deadlines and active participation.

- Program-Specific Requirements

You have access to a computer with an internet connection, on which you'll install a professional code/text editor (VSCode).

You can independently solve and describe your solution to a math or programming problem

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## Jobs which you can apply

Python developer

# Python Programming

05

## Projects

1. CLI Game
2. Interactive Crime Maps in Python
3. Pokemon Image Plotting (Pok-e-Search)
4. Certificate Generation using PIL
5. Facebook Posting CLI
6. Scraping IMDb Website
7. Showcase IMDb movie cards on a Flask website

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## Skills you will learn

1. Git and GitHub
2. Problem-Solving Skills on Hackerrank
3. Python Syntax
4. Command-Line
5. Project Design
6. Utilising Package managers
7. HTTP Requests, APIs & JSON
8. Postman & Facebook API
9. Web Scraping, BeautifulSoup
10. Flask

Estimated Time	Modules	Project or Target	Learning Outcome
Day 1 & 2 (4 Hours)	<b>Module 1</b> Python Syntax, Introduction to Git and Github, Hackerank	Hackerrank Problems	Problem Solving Skills, Introduction to Online judges and Python Syntax
Day 3 & 4 (4 Hours)			
Day 5 & 6 (4 Hours)			
Day 7 & 8 (4 Hours)			
Day 9 & 10 (4 Hours)	<b>Module 2</b> Functional Programming	CLI Game	Functions, Command-Line, Project Design
Day 11 & 12 (4 Hours)	<b>Module 3</b> Package Managers and some popular packages (NumPy, matplotlib, pandas and folium)	Interactive crime maps in python	Utilising Package managers
Day 13 & 14 (4 Hours)	<b>Module 4</b> Internet and APIs, PIL Networking	Pokemon Image Plotting (Pok-e-Search), Certificate Generation, Facebook Posting CLI	HTTP Requests, APIs, JSON and Image Manipulation, Postman, Facebook API
Day 15 & 16 (4 Hours)			
Day 17 & 18 (4 Hours)	<b>Module 5</b> Web Scraping and Intro to Flask	Scraping IMDb	Scraping, BeautifulSoup, Flask, Virtual Environments
Day 19 & 20 (4 Hours)	<b>Module 6</b> Flask	Showcase IMDb movie cards on Flask Website	Flask



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