Full Stack Python: Course Content

Module Name	What You Will Learn
Python Introduction and Setting Up the Environment	Gain knowledge of the Python language, its differences from R, different job roles, IDEs, and the process of downloading and setting up the Python environment.
Python Basic Syntax and Data Types	Learn about input and output operations, variables, basic data types, and typecasting in Python.
Operators in Python	Understand different operators in Python and their functionalities.
Strings	Learn how to create, format, index, and slice strings in Python, along with string methods.
Tuples	Understand tuples, their syntax, properties, indexing, slicing, and methods.
Lists	Learn about lists, their properties, indexing, slicing, methods, and how to add, update, and remove elements from lists.
Sets	Learn about sets, their syntax, operations, methods, and the difference between sets, tuples, and lists.
Dictionaries	Understand dictionaries, their syntax, how to store and access data, and dictionary methods.
Python conditional statements	Learn how to set logic with conditional statements and use if, if-else, and if-elif-else statements.
Loops in Python	Understand loops in Python, including while and for loops, range, break,

	continue, pass, enumerate, zip, and assert.
Getting Started with HackerRank use cases and working on them	Solve HackerRank challenges and assignments to acquire bronze and silver-level badges.
List and Dictionaries comprehension	Learn about list and dictionary comprehension and their syntax.
Functions	Understand functions, how to create and call them, pass arguments, and other essential concepts related to functions.
Anonymous function	Learn about Lambda functions and how to use them with filter, map, and reduce.
Generators	Learn how to create and use generators in Python programming.
Modules	Understand how to create modules, import functions or variables from other modules, and learn about Python built-in modules.
Exceptions and Error Handling	Learn about different types of errors and how to handle them using try, except, and finally blocks.
Working on Object Oriented Programming (OOPs)	Learn about classes, objects, attributes, methods, inheritance, polymorphism, and operator overloading in Python.
Packages	Learn how to create packages and import modules from packages, as well as different ways of importing modules and packages.
Date and Time	Learn about the Date and Time modules, time delta, formatting date and time, strftime(), and strptime().

Regex	Learn about regular expressions and their use in Python, including re.search(), re.compile(), re.find(), re.split(), re.sub(), and metacharacters.
Files	Learn how to open different types of files, read, write, and close files, and open files in different modes.
MySQL Database	Learn about MySQL database, its operators, string functions, working with MySQL workbench, MySQL joins, and more.
Python for Web Development – Flask	Learn about Flask, a Python web framework.
Flask introduction and installation	Learn how to install Flask, its components, and the importance of a virtual environment for project development.
Building routes with Flask	Learn about dynamic routes, redirection, URL building, URL converters, requests, and responses in Flask.
Getting into Front-end Web Development	Learn about front-end web development.
HTML	Learn basic HTML concepts, including page structure, formatting content, creating lists and links, and controlling styling.
CSS3	Learn about CSS3, its core concepts, Flask request handling, Jinja 2 template engine, and dynamic web pages with Flask-Jinja2.
CSS	Learn about typography, layouts, login system with Flask, server-side sessions, file handling with Flask, and advanced layouts.

JavaScript	Learn about typography, layouts, login systems with Flask, server-side sessions, file handling with Flask, and advanced layouts.