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Certificate in Python Programming

Course Curriculum *www.hiit.ng*

Course Overview: This course will teach students how to program using Python. At the end of the course, graduates will be able to take on tasks and job opportunities as Python Programmer.

WEEK	DAY	MODULE	OBJECTIVES	TOPICS	HOURS
Week 1	Day 1	1. Python Overview	At the end of this Module, you will understand: the basics of Python, install the tools you need to wite and run your python programs	1. What is Python? 2. Why Python? 3. Areas of Applications 4. Installing Python and VsCode, Pycharm 5. Python Interpreter 6. First Python Program and Running it 7. Some Plugins for Vscode 8. Commenting Your code 9. Some more simple Python code	3
Week 1	Day 2	2. Python Data Types and Control Structures	At the end of this module, you would be able to write your first python program, Variables and Data types, Working with Strings and Numbers, Use control Structures to manage the flow of your programs, Use python Iterables, Read Input from the keyboard, and you are going to write some fairly complex python code.	1. Variables, Variable Names, Data Types 2. Strings In Python 3. Common String Methods 4. Numbers, Math Module 5. Working with Numbers and Operator Precedence 6. Reading Input from Keyboard 7. Building a Simple Calculator 8. Type Conversion 9. Operators 10. Conditional Statements 11. FizzBuzz Program 12. Short-Circuit Evaluation 13. Iterables 14. Loops (For, While) 15. Buildong a Guess game 16. Building a car game	3

WEEK	DAY	MODULE	OBJECTIVES	TOPICS	HOURS
Week 2	Day 3	3. Functions and Modules	At the end of this Module, you will be introduced to the concept of Functional Programming, you will learn about functions, use more in-built functions in Python, create your own functions and use them.	1. Introduction to Function 2. Some out of the box functions 3. Creating your own functions 4. Age Calculator Program 5. Eldest Brother among 3 siblings programs 6. Functions with Default, Keywords, or Varying Length Arguments 7. Python Lambda	3
Week 2	Day 4	3. Functions and Modules (Cont'd)		1. What is module 2. In-built and 3rd Party Modules 3. Some Inbuilt Modules: Random, Math, Datetime, calendar, turtle, os, itertools, collections etc 4. Some 3rd party modules: PyWhatKit, Pyttsx3 5. Exception Handling 6. I/O: Working with Files	3
Week 3	DAY 5 & 6	4. Object Oriented Programming	At the end of this Module, you will be introduced to the concept of Object Oriented Programming, you will learn about Classes, Objects, the Pillars of OOP (Inheritance, etc),	1. Introduction to OOP 2. Classes and Object 3. The Pillars of OOP	6
Week 4	DAY 7	5. Databases	At the end of this module, you will be introduced to MySQL, create MySQL Databases and Tables and write a python program that interacts with the database.	1. Introduction to Mysql 2. Creating Database, Tables 3. DDL and DML (Select, Delete etc) 5. Python Connecting to Mysql 6. A Simple Registration Program	3

WEEK	DAY	MODULE	OBJECTIVES	TOPICS	HOURS
Week 4	DAY 8	Wrap-up	At the end of this module, you will be introduced to the various application areas of Python and their respective Python Packages and Libraries.	1. Python for Web (FastAPI) : (Optional) 2. Python for Data Science (Pandas) : (Optional) 3. Python for GUI: (Tkinter) 4. Python for Web Scraping: (Beautiful Soup) (Optional) 5. Python for Automation: (Selenium) (Optional) 6. Project	3
				TOTAL	24