

Python Programming

Course Curriculum

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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.

Period	MODULE	TOPIC	HOURS	OBJECTIVES
3rd - 6th Nov 2020	1. Python Basics and Control Structures	1. What is Python?	6	At the end of this Module, you will understand: the basics of Python, install the tools you need to write and run your python programs 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.
		2. Why Python?		
		3. Areas of Applications		
		4. Installing Python and VsCode		
		5. Python Interpreter		
		6. First Python Program and Running it		
		7. Some Plugins for Vscod		
		8. Commenting Your code		
		9. Some more simple Python code		
		10. Variables, Variable Names, Data Types		
		11. Strings		
		12. Escape Sequence		
		13. Formatted String		
		14. String Indexing		
		15. Slicing String		
		16. Common String Methods		
		17. Concatenation and Repetition		
		18. Numbers		
		19. Working with Numbers and Operator Precedence		
		20. Reading Input from Keyboard		
		21. Building a Simple Calculator		
		22. Type Conversion		
		23. Comparison Operator		
		24. Conditional Statements		
		25. FizzBuzz Program		

		26. Ternary Operators 27. Logical Operators 28. Short-Circuit Evaluation 29. Lists 30. Tuple 31. Set 32. Dictionaries 33. Array 34. Array Methods 35. Loops (For Loops) 36. Loops (For Else) 37. Loops (Nested Loops) 38. Loops (While) 39. Infinite 40. Building a Guess game 40. Building a car game		
10th Nov - 17th Nov 2020	2: Functions and Modules	1. Introduction to Function and Modules 2. Some out of the box functions 3. Arithmetic Operators 4. Assignment Operator 5. Math Module 6. Floor and Modulus 7. Random Module 8. Date Module 9. Age Calculator Program 10. Eldest Brother among 3 siblings programs 11. Creating your own functions 12. Python Scope 13. Python Lambda 14. Python RegEx 13. Exception Handling 14. File IO - Read files 15. File IO - Write files 16. File IO - Delete Files 14. Introduction to OOP 15. Classes and Object 16. Inheritance	9	<p>At the end of this Module, you will be introduced to the concept of OOP, you will learn about functions, use more in-built functions in Python, create your own functions and use them.</p>

Date Range	MODULE	TOPIC	HOURS	OBJECTIVES
20th - 24th Nov 2020	3: Database	1. Introduction to Mysql	4	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.
		2. Creating Database, Tables		
		3. DDL and DML (Select, Delete etc)		
		4. DDL and DML Continuation		
		5. Python Connecting to Mysql		
		6. A Simple Registration Program		
		7. Some more practice Program		
27th Nov 20- 1st Dec 2020	4: Libraries and GUI	1. Introducing Pip and Pypi	5	At the end of this Module, you will be introduced to using popular libraries and you will be building a GUI Program
		2. Introducing NumPy		
		3. Working with NumPy I		
		4. Working with NumPy II		
		5. Introducing Tkinter		
		6. Python GUI I		
		7. Python GUI II		
		8. Python GUI III		
		9. Introducing Pycharm and Anaconda		
		CAT1 to 3		
		END OF COURSE EXAMS		
		Team Project		
		TOTAL		
			24	