

Certificate Course on Python for Data Science

Course Objectives	This course is designed to impart the language features of Python. It includes python data structures, regular expressions, data preprocessing, analysis and visualization.
Course Outcome	> Develop simple Python programs using Python data structures > Data preprocessing using python > Data analysis using python > Data visualization using python
Evaluation Pattern	Attendance-10% Quiz-40% Assignment-50%

Course Plan

Date	Period	Topic	Remarks
Module 1			
12-12-2021	3 to 4 pm	Introduction to the course	
		What is Python – History of Python – Features of Python	
		Concept of high-level language, steps involved in the development of a Program - Compilers and Interpreters	
16-12-2021	7 pm to 8 pm	Live session-Discussion	
		Introduction to Python language: Inputs and Outputs	
		Variables, operators, expressions and statements -	Programming Assignment 1
Quiz -1			
23-12-2021	7 pm to 8 pm	Live session-Discussion	
		Strings, Lists,	
		Tuples, and Dictionaries	Programming Assignment 2
30-12-2021	7 pm to 8 pm	Live session-Discussion	
		Conditionals,	
		Iteration and looping	Programming Assignment 3
6-1-2022	7 pm to 8 pm	Live session-Discussion	
		Functions and Modules	
		Mathematical functions (math module)	Programming Assignment 4
Quiz-2			
13-1-2022	7 pm to 8 pm	Live session-Discussion	
		File input and Output,	
		Pickling, Formatted Printing.	Programming Assignment 5
20-1-2022	7 pm to 8 pm	Live session-Discussion	
Module - 2			
		Numpy module:- Arrays and Matrices: creation of arrays and matrices (arange, linspace, zeros, ones, random, reshape, copying)	Programming Assignment 6
27-1-2022	7 pm to 8 pm	Live session-Discussion	
		Arithmetic Operations, cross product, dot product , Saving and Restoring	Programming Assignment 7
3-2-2022	7 pm to 8 pm	Live session-Discussion	
		Matrix inversion, solution of simultaneous equations.	Programming Assignment 8
Quiz - 3			
10-2-2022	7 pm to 8 pm	Live session-Discussion	
		Pandas : Introduction , Series, Data Frame	
		Indexing and Slicing of Data Frame, handling missing Data	Programming Assignment 9

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