

Schedule for Skill Development Program on Python Programming

Date: 15-17 and 22-24 Sept, 2022

Data	11:00 AM - 11:30 AM	11:30 AM - 12:00 PM	12:00PM - 12:30 PM	12:30PM - 1:00 PM	1:00PM - 2:00 PM	2:00PM - 2:30PM	2:30PM - 3:00PM	3:0 PM -3:30 PM	3:30 PM - 4:00 PM	
15/9/2022	Inauguration and Introduction Session by [Prof. Amey Karkre, IIT Kanpur]	Introduction What is Python, its popularity, major benefits. Installing Python, Run Python in Terminal [Prof. Amey Karkre, IIT Kanpur]	Data, Variables, Basic Python Syntax, Arithmetic Operations [Prof. Amey Karkre, IIT Kanpur]		L u n c h	Strings, Tuples, Sets. User Input. Inbuilt function on strings, Operation on strings, Slicing tuples [Prof. Amey Karkre, IIT Kanpur]		Lists and Dictionaries. Lists- Modify lists, List Tricks, Dictionary, List Comprehension [Prof. Amey Karkre, IIT Kanpur]		
16/9/2022	Loops. If Statements, If Else, If Variables, For Loops, For Loop with Range function, For Loops with Number, While Loops, While Else, While Input [Dr. Pooja, IIT Nagpur]	Functions - Parameters, Return Variable, List as Parameter, Recursion, Local and Global Scope, Scope of a variable [Dr. Pooja, IIT Nagpur]		Object Oriented Programming. Introduction to classes, Initiating a class, Protected attributes [Dr. Pooja, IIT Nagpur]		Object Oriented Programming. Inheritance, Modules [Dr. Pooja, IIT Nagpur]				
17/9/2022	File Handling. Files- Write File, Append to File, Read File, Write Variables to File [Mr. Manish Joshi, KU Nepal]	Python Packages. Import Packages, Selective Import, Different ways of Importing, Numpy Basics, Numpy Array, 2D numpy Arrays, Arithmetic, Numpy: Basics Statistics, Average versus median, Explore the data [Mr. Manish Joshi, KU Nepal]		Dataset Basics - Finding Dataset, Jupyter Notebooks and Loading data, Pandas vs Numpy [Prof. Atul Gupta IITDMJ, India]		Dataset Basics - Creating DataFrames, Saving and Serializing, Inspecting DataFrames and Quiz 1 [Prof. Atul Gupta IITDMJ, India]				
22/9/2022	Visual exploration - Introduction and Basic Plots, Pandas vs Matplotlib, Visualizing 1D distributions [Dr. Preetom Saha Arko, BUET, Bangladesh]	Visual exploration - Visualizing 2D distributions, Styling Pandas Table outputs, Higher dimension visualizations [Dr. Preetom Saha Arko, BUET, Bangladesh]		Basic Data Manipulations. Labeling and Ordering, Slicing and Filtering, Replacing and Thresholding, Removing and adding data, Apply, map and vectorised functions [Dr. Preetom Saha Arko, BUET, Bangladesh]		Grouping. Introduction, Basic grouping syntax, Intelligent imputation, Grouping aggregation [Dr. Preetom Saha Arko, BUET, Bangladesh]				
23/9/2022	Merging- Introduction and basic syntax, Different types of merging, Helpful merging functions [Dr. Sushil Shreshtha, KU Nepal]	Advanced Manipulation: Multiindex, Introduction and Basic MultiIndex [Dr. Sushil Shreshtha, KU Nepal]		Advanced Manipulation: Multiindex II, Stacking and Unstacking [Dr. Sushil Shreshtha, KU Nepal]		Advanced Manipulation: Pivoting, Pivot Margins, Crosstab, Melting [Dr. Sushil Shreshtha, KU Nepal]				
24/9/2022	Exception Handling- Errors vs Exceptions, Handling Exceptions, try, except, else, finally [Prof. Atul Gupta IITDMJ, India]	Time Series Data: Introduction and Datetime Index, Reindexing, Resampling [Mr. Manish Joshi, KU Nepal]		Time Series Data: Rolling functions, Time Zones and Quiz 2 [Mr. Manish Joshi, KU Nepal]				Valedictory Session Lecture by [Dr. A. B. M. Alim Al Islam]		