

COURSE CURRICULUM

Units	Day	Date	Topics
Python Basics	1	06/12/2023	Getting started with Python-setting up of the working environment in Python, Running Python scripts/jupyter notebooks
	2	07/12/2023	Python Basics: Data Types-Numbers, Strings, Printing, Lists, Dictionaries, Booleans, Tuples, Sets and their usage
	3	08/12/2023	Comparison operators-if,elif,else statements; for loops, while loops
	4	09/12/2023	Range, List comprehension, Functions, Lambda Expressions, Map & Filter, Method
NumPy Library	5	11/12/2023	Introduction to Numpy Libraries; Arrays; Built-In Methods: Arrange, Zeros & Ones, Linspace, Eye
	6	12/12/2023	Random Functions, Reshape, Arithmetic operations, Min & Max; Sum & Count; Mean, Median, Mode; Shape; Universal Array Functions
Pandas	7	13/12/2023	Introduction to pandas Libraray; Selecting a single column; A Closer look at Series, Important Series Methods
	8	14/12/2023	unique & nunique; nlargest & nsmallest; Selecting Multiple Columns; value_counts() Method
Indexing & Sorting	9	15/12/2023	Set_Index Basics; setting index with read_csv; Bracket Indexing and Selection; Broadcasting, Indexing a 2D array
	10	16/12/2023	Selection; sort values intro; sorting by multiple columns; sorting text columns; sort_index; Sorting and Plotting; loc; iloc; loc & iloc with Series (Assignment-1)

COURSE CURRICULUM

Units	Day	Date	Topics
Data Frames	11	18/12/2023	Inspecting DataFrames: head(), tail(), etc; DataTypes and info(); Sample Dataset Walkthrough; Filtering With Comparison Operators; The Between Method; The isin() Method; Combining Conditions.
	12	19/12/2023	Adding & Removing Columns: Dropping Columns; Dropping Rows; Adding Static Columns; Creating New "Dynamic" Columns; Updating Values-Renaming Columns and Index Labels; The replace() method; Updating Values Using loc[];
	13	20/12/2023	Updating Multiple Values Using loc[]; Making Updates With loc[] and Boolean Masks; Casting Types With astype(); Introducing the Category Type; Casting With pd.to_numeric(); dropna() and isna(); fillna(); Working with Dates and Times:
Matplotlib Library	14	21/12/2023	Intro to Matplotlib Library-Anatomy of Plots; Figsizes & Plot Dimensions; Changing Matplotlib Stylesheets; Bar Plots Histograms; Scatter Plots; Pie Plots
	15	22/12/2023	Grouping & Indexing- Introducing Groupby; Exploring Groups; Split-Apply-Combine; Hierarchical Indexing
Working with Text	16	23/12/2023	The String Datatype Vs. Object Datatype; Upper(), Lower(), and Capitalize(); Indexing String Series With []; Apply, Map & ApplyMap-Applying Functions to series: Different Methods
Concatenation	17	26/12/2023	Concatenating Series; Concatenating DataFrames; The DataFrame Merge() Method
Seaborn Library	18	27/12/2023	Introduction to seaborn Libraries, Seaborn Lineplots & Scatterplots; Seaborn Histograms; KDE Plots; Bivariate Distribution Plots
	19	28/12/2023	Seaborn Categorical plots: CountPlot, Strip & Swarm Plots; Boxplots, barplots, pairplots
Capstone Project	20	29/12/2023	Capstone Project: Data Exploration, Data wrangling & Data Visualization (Based on Numpy, pandas, Matplotlib and Seaborn Libraries) (Day-I)