

Python for Data Analysis Course Curriculum

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Course Overview: *This course is designed to provide students with a comprehensive understanding of how to use Python programming language for effective Data Analysis. Through hands-on exercises, real-world examples, and practical projects, students will gain the skills needed to manipulate, visualize, and draw insights from various types of Data.*

WEEK	DAY	MODULE	OBJECTIVES	TOPIC	HOURS
WEEK 1	Day 1 & 2	1. Introduction to Python and Data Analysis Basics	This module introduces python programming and basic concepts	<ol style="list-style-type: none"> 1. Understand the importance of data analysis in various industries. 2. Set up a Python development environment. 3. Learn Python syntax and fundamental programming concepts. 4. Perform basic data manipulation using Python's built-in data structures. 	6.0
WEEK 2	Day 3 & 4	2. Data Loading and Cleaning	This Module introduces Data Loading and Cleaning	<ol style="list-style-type: none"> 1. Load data from different sources: CSV, Excel, JSON, and databases. 2. Handle missing values and outliers effectively. 3. Clean and preprocess data for further analysis. 	6.0
Week 3	Day 5 & 6	Exploratory Data Analysis (EDA)	This Module will teach participants how to create data visualization with python.	<ol style="list-style-type: none"> 1. Perform descriptive statistics on datasets. 2. Create data visualizations using libraries like Matplotlib and Seaborn. 3. Identify patterns, trends, and anomalies in data. 	6.0
WEEK 4	Day 7 & 8	Data Wrangling and Transformation	This Module will teach participants how reshape data	<ol style="list-style-type: none"> 1. Learn how to reshape data using Pandas. 2. Apply filtering, grouping, and aggregation operations. 3. Combine and merge datasets for comprehensive analysis. 	6.0
				TOTAL	24