COURSE SYLLABUS

Python for Data Science Course Online

Discover the potential of Python for data-driven decision-making by mastering the fundamentals of Python programming and exploring data analysis. Gain crucial skills to clean and manipulate data, generate meaningful visualizations, and conduct statistical analysis, all through practical projects using real-world datasets.

> Group classes (Live Online) and onsite training are available for this course. For more information, email partnerships@vdci.edu or visit: https://vdci.edu/courses/python-for-data-science-course-online



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Course Outline

Python Fundamentals

Data Types & Variables

- Statements & Expressions
- Variables
- Integers & Floats
- Strings

Data Structures & Attributes

- Functions & Methods
- Lists
- Indexing & Slicing
- Booleans

Structuring Programs

Complex Data Structures & Control Flow

- Dictionaries
- Conditional Statements
- For Loops
- Creating Functions

Packages & Object Oriented Programming

- Classes & Objects
- Modules & Imports
- Packages & Documentation

Arrays & Dataframes

NumPy

- Arrays
- Universal Functions
- Boolean Indexing

Pandas

- Pandas Dataframes
- Pandas Series & dtypes
- Column Manipulation
- Descriptive Statistics

Analyzing & Visualizing Data

Data Analysis

- Filtering & Cleaning Data
- Groupby Operations
- Pivot Tables

Data Visualization

- Plotting with Matplotlib
- Bar Charts
- Scatter Plots
- Histograms
- Customizing Visualizations