

Data Analytics with Python

Duration: 3 days

COURSE DESCRIPTION

Everyday buzzwords like "analytics," "insights" and "big data," permeate the pages of our business journals. Companies and departments are aware of their huge troves of data, and they have access to common tools for leveraging this data. However, much less available are the actual analysis skills to truly understand and realize the benefits of this information. The potential is very real, but comprehensive skills can be scarce, and outside consultants are expensive. If you have a basic familiarity with Excel, this three-day course can teach you practical applied analysis techniques to leverage data for relatively common decision-making methods.

'Data Analytics' this course, organized into key topic areas, leverages straightforward business examples to explain practical techniques for understanding and reviewing data quality and how to translate data into the analysis of business problems to begin making informed intelligent decisions. Get an overview of data quality and data management, followed by foundational analysis and statistical techniques. Throughout the course, you will learn to communicate about data and findings to stakeholders who need to quickly make the decisions that drive your organization forward.

COURSE OBJECTIVES

- Learn the data analysis process of wrangling, exploring, analyzing, and communicating data.
- Work with data in Python, using libraries like NumPy and Pandas, etc.

COURSE OUTLINE

Day 1

Introduction to Data Science

- What is Data Science
- Goal of DS
- DS Steps
- DS Workflow
- DS Skill
- DS Roles
- DS Tools
- Roles & Tools

Data Science Process

- process
- Interpret data
- Examples

Data Analytics

- What is
- DA Compare with DS
- Types of DA
- Analytic Data
 - Collect Data
 - Analyze
 - Make Decision

- Communicate
- Distributed Value
 - Raw Data
 - Dimension Data
 - Data Attribute
- Examples

Day 2

Math & Statistic & Probability

- Math in DS
- Probability
- Normal Distribution
- Examples

Review Python

- Introduction to Python
 - What is Python?
 - Why Python
 - Python Features
 - Python Environments
 - Python Installation & IDEs
- Python Syntax
 - Data Types
 - Python Operators
 - Condition Statements
 - Looping Statements
- Functions
 - What is
 - Benefits
 - Syntax
 - Types
 - Design Functions
 - Calling Function

Data Preparation

- What is
- Benefits
- Steps

Day 3

Compute data with Numpy

- What is
- Why Use NumPy
- Installing NP
- use
- Create Array
- Accessing
- operations

Data Visualization

- Matplotlib
 - What is
 - use for

- can
- installation
- Types of Charts
- Examples
- Pandas
 - What is
 - use to
 - Installation
 - Ex
 - Series
 - Data Frame
 - Reading Data
 - Analyzing Data Frames
 - operations
 - Cleaning Data
 - Plotting

Dashboard & Diagnostic

- What is
- Why it important
- Dashboard vs Chart
- How to Create Dashboard

PREREQUISITES

Basic Python

WHO SHOULD ATTEND

- Data Scientist
- Data Analyst
- IT Business Analyst
- Anyone involved in operations, project management, business analysis, or management who needs an introduction to Data Analysis