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DATA SCIENCE WITH PYTHON (BASIC)

BY ELITE INDIGO

Demystify the foundational data science workflow, manipulate complex datasets using Python, and build functional machine learning models to deploy actionable, data-driven solutions.

REGISTERED HRD CORP TRAINING PROVIDER

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Data Science with Python (Basic)

• Program Overview

In today's competitive landscape, data science has emerged as a critical asset across industries, empowering professionals to extract high-value insights and make automated business decisions. This intensive 3-day introductory course bridges the gap between raw data and strategic visualization using Python programming. Participants will explore the entire data science workflow, progressing from initial data gathering and database engineering to data wrangling and preparation for machine learning. Through practical application, you will learn to construct predictive models, design statistical tests, and deploy a data science solution directly to a web application—equipping you with the tools to effectively communicate results to key stakeholders.

• Learning Objectives

By the end of the course, participants will be able to:

- Comprehend the primary roles of a data scientist, covering database engineering, data gathering, and data wrangling.
- Apply Python programming to construct foundational machine learning models and deploy analytical solutions to a functional web application.
- Execute statistical principles and data visualization techniques to analyze datasets, run tests, and communicate findings to stakeholders.

• Duration

Three (3) Full-Day Workshop

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Data Science with Python (Basic)

Course Schedule (Day 1)

DAY/TIME	DESCRIPTION
30 Minutes	**Opening**
3 Hours	**Module 1: Introduction to Data Science** • The Data Science Process • Communicating to Stakeholders
1 Hour	**Lunch**
3 Hours	**Module 2: Linear Algebra** • Vectors • Linear Combination • Linear Transformation and Matrices
30 Minutes	**Summary and End of Day 1**

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Course Schedule (Day 2)

DAY/TIME	DESCRIPTION
30 Minutes	**Recap of Day 1**
3 Hours	**Module 3: Practical Statistics** • Data Types • Measures of centre (mean, median, mode) • Standard Deviation, Variance, Outliers • Probability • Binomial Distribution • Conditional Probability • Bayes Rule • Normal Distribution theory • Sampling distributions and the Central Limit • Theorem • Confidence Intervals • Hypothesis Testing • Type I and type II errors • P-values • Null Hypothesis, Alternate Hypothesis
1 Hour	**Lunch**
3 Hours	**Module 4: Data Engineering** • ETL pipelines • Extract - CSV, JSON, XML, SQL databases • Transform - combing, cleaning, encoding, missing data, duplicate data • Dummy data, Outlier data, scaling data • Feature Engineering • Load
30 Minutes	**Summary and End of Day 2**

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Data Science with Python (Basic)

Course Schedule (Day 3)

DAY/TIME	DESCRIPTION
30 Minutes	**Recap of Day 2**
1 Hour 30 Minutes	**Module 5: Database Programming**
1 Hour 30 Minutes	**Module 6: Data Preparation, Data Wrangling**
1 Hour	**Lunch**
3 Hours	**Module 7: Data Visualisation** • Data Visualisation in Data Analysis • Design of Visualisations • Univariate Exploration of Data • Bar Charts • Pie Charts • Histograms • Bivariate Exploration of Data • Scatterplots and Correlation • Overplotting, Transparency, and Jitter • Heat Maps • Violin Plots • Box Plots • Clustered Bar Charts • Faceting • Line Plots • Swarm Plots • Multivariate Exploration of Data • Feature Engineering • Explanatory Visualisations • A Data Visualisation in Data • Analysis - Case study
30 Minutes	**Summary and End of Course**

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ABOUT ELITE INDIGO

We are dedicated to empowering businesses to achieve their full potential. With a team of seasoned professionals and a wealth of industry experience, we offer tailored consulting services to help organizations overcome challenges and seize opportunities.

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4.9 ★★★★★ 1,061 Google reviews

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OUR COURSES

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Dive into the cutting-edge world of AI, exploring algorithms, data analysis and more.

TECHNICAL SKILL

Sharpen your technical prowess from programming, software and more.

SOFT SKILL

Develop essential interpersonal skills to excel in any professional setting.

LEADERSHIP SKILL

Unleash your leadership potential with our Leadership Skills course

TEAMBUILDING

Understand the dynamics of teamwork, communication, and synergy



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