

Course Title: - Data Scientist (120 hours)

This comprehensive course prepares students to excel in the field of Data Science. By providing essential knowledge and practical skills, it equips them for real-world challenges. Students will learn Python programming, data manipulation, machine learning, and visualization. Additionally, they'll gain proficiency in tools like Tableau. This course also paves the way for potential certifications.

Key Learning Objectives	Course Content	Hours
<p>Module 1: At the end of the module the students will be able to:</p> <ul style="list-style-type: none"> ➤ Understand the fundamentals of Python programming language. ➤ Comprehend various Python data structures and their applications. ➤ Demonstrate proficiency in Python programming for data manipulation. ➤ Utilize NumPy arrays for efficient numerical computations. 	<p>Module 1: Python for Data Science</p> <ul style="list-style-type: none"> • Python Basics • Python Data Structures • Python Programming Fundamentals • Working with Data in Python • Working with NumPy Arrays • Summary and Review • Online quiz test 	18
<p>Module 2: At the end of the module the students will be able to:</p> <ul style="list-style-type: none"> ➤ Gain an overview of Data Science and its applications. ➤ Understand the basics of data analytics and statistical analysis. ➤ Set up a Python environment for data science projects. ➤ Master key libraries such as NumPy, SciPy, and Pandas. ➤ Learn machine learning with Scikit-Learn and natural language processing with Scikit Learn. ➤ Acquire skills for data visualization and web scraping. 	<p>Module 2: Data Science with Python</p> <ul style="list-style-type: none"> • Data Science Overview • Data Analytics Overview • Statistical Analysis and Business Applications • Python Environment Setup and Essentials • Mathematical Computing with Python (NumPy) • Scientific computing with Python (Scipy) • Data Manipulation with Pandas • Machine Learning with Scikit-Learn • Natural Language Processing with Scikit Learn 	40

<ul style="list-style-type: none"> ➤ Explore Python's integration with Hadoop MapReduce and Spark. 	<ul style="list-style-type: none"> • Data Visualization in Python using matplotlib • This lesson teaches you to visualize data in python using matplotlib and plot them. • Web Scraping with BeautifulSoup • Python integration with Hadoop MapReduce and Spark • Summary and Review • Online quiz test 	
<p>Module 3: At the end of the module the students will be able to:</p> <ul style="list-style-type: none"> ➤ Grasp the concepts of Artificial Intelligence and Machine Learning. ➤ Learn the process of data wrangling, manipulation, and feature engineering. ➤ Understand both supervised and unsupervised learning techniques. ➤ Gain expertise in classification, time series modeling, ensemble learning, and recommender systems. ➤ Explore text mining for extracting insights from textual data. 	<p>Module 3: Machine Learning</p> <ul style="list-style-type: none"> • Introduction to Artificial Intelligence and Machine Learning • Data Wrangling and Manipulation • Supervised Learning • Feature Engineering • Supervised Learning-Classification • Unsupervised learning • Time Series Modelling • Ensemble Learning • Recommender Systems • Text Mining • Summary and Review • Online quiz test 	<p>32</p>

<p>Module 4:</p> <p>At the end of the module the students will be able to:</p> <ul style="list-style-type: none"> ➤ Get started with Tableau and its interface. ➤ Master core Tableau topics and concepts. ➤ Create various charts and visualizations using Tableau. ➤ Understand metadata and implement filters. ➤ Apply analytics to worksheets and create interactive dashboards. ➤ Learn about modifying data connections and Level of Details (LODs). 	<p>Module 4: Tableau</p> <ul style="list-style-type: none"> • Getting Started with Tableau • Core Tableau in Topics • Creating Charts in Tableau • Working with Metadata • Filters in Tableau • Applying Analytics to the worksheet • Dashboard in Tableau • Modifications to Data Connections • Introduction to Level of Details in Tableau (LODS) • Summary and Review • Online quiz test 	<p>30</p>
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