

DATA ANALYTICS

Course Id: DAAF05ENT24DIP**Duration:** 60 Hours**Difficulty:** Easy**Level:** Entry

1. Introduction to Data Analytics

- Overview of Data Analytics
- Importance and applications of Data Analytics
- Basic concepts: Data, Information, Knowledge
- Types of Data: Structured vs. Unstructured Data
- Introduction to Excel for Data Analysis: Basic formulas, sorting, filtering

2. Data Visualization

- Introduction to Data Visualization
- Importance of Data Visualization in Data Analytics
- Tools for Data Visualization (Excel, Tableau, Power BI)
- Basic Charts and Graphs (Bar charts, Line charts, Pie charts)
- Best Practices in Data Visualization

3. Data Preprocessing and Cleaning

- Introduction to Data Preprocessing
- Data Cleaning Techniques
- Handling Missing Values
- Removing Duplicates
- Data Transformation: Normalization and Standardization

4. Introduction to Statistics for Data Analytics

- Descriptive Statistics: Mean, Median, Mode
- Measures of Variability: Range, Variance, Standard Deviation
- Inferential Statistics: Hypothesis Testing, Confidence Intervals
- Correlation and Regression Analysis

5. Introduction to Machine Learning

- Overview of Machine Learning
- Supervised vs. Unsupervised Learning
- Classification vs. Regression
- Introduction to Algorithms: Decision Trees, Random Forest, K-Nearest Neighbors

6. Data Analysis with Python

- Introduction to Python for Data Analytics
- Basics of Python Programming
- Data Analysis Libraries: NumPy, Pandas
- Data Visualization with Matplotlib and Seaborn
- Hands-on exercises and projects integrating concepts learned throughout the course

7. Capstone Project

- Students work on a capstone project applying the concepts learned throughout the course
- Guidance and support provided by instructors
- Presentation of capstone projects by students