



## **Data Analytics with Excel, SQL, & Power BI Curriculum**

### **Scenario Academy**

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### **Course Details**

#### **Description**

It's no surprise that businesses need to compete to gain share of their market and stay relevant. However, it may be surprising to learn that data and business analysts, play an increasingly important role in this competition.

- How are market trends shifting?
- What are the new innovations for investment?
- How are customers reacting to our products?
- How do we make product improvements?
- or what are our forecasted sales into the next quarter?

These are handful of questions that data analysts aim to answer by using data. With Excel, SQL and visualization tools like Power BI, analysts can help to make the decisions that are most impactful at improving business metrics.

We have setup a unique mentored learning model that combines a live interactive physical or online classroom experience, program support and career coaching to ensure successful learning outcomes. This program provides an unmatched opportunity for individuals to begin or shift their career into the eye-popping field of business analytics.

#### **Benefits**

- A workshop certificate issued after the training
- Post-training internship and employability support and
- A Mentored Learning Approach

## Module 1. Introduction to Microsoft Excel

- **Getting Started**
  - Formatting of text & numbers
  - Conditional Formatting and Data Validation
  - Auto Sum/ Save as Pdf / Freeze Pane
  - Named Ranges
  - Cell Locking and Referencing
- **Data Analysis with**
  - Logical functions
  - Arithmetic functions
  - VLOOKUP, HLOOKUP, INDEX-MATCH
  - Conditional Aggregation: COUNT, COUNTA, COUNTBLANK, COUNTIF, SUMIF, NESTEDIF, COUNTIFS, SUMIFS, SUMPRODUCT, AVERAGEIF
  - Aggregations
- **Data Manipulation with**
  - Power Query
- **Data Modelling with**
  - Power Pivot
  - Dashboarding
- **Capstone**

## Module 2. Introduction to Structured Query Language (SQL)

- Installing and Setting up your environment
- Introduction to SQL
- Introduction to Relational Database Management System (RDBMS)
- Creating Databases, Tables and Columns
- Retrieving, Updating, Inserting and Deleting Data
- Sorting and Filtering Data, Advanced Filtering
- Summarizing and Grouping Data
- Joining and Managing Tables
- Using Subqueries and Views

## Module 3. Introduction to Microsoft Power BI

- **Getting Started with Power BI Workspace and Environment**
- **Connect Power BI, to multiple sources of data:**
  - Excel, CSV, Folder
  - Web
  - SQL Server
  - Others Data Sources
- **Visualizing Data**
  - Using **Column, line & Pie Charts** to understand business trends
  - Sizing business segments with **Treemap**
  - Using **Funnel Charts** to understand leads conversion
  - Business Sensitivity Analysis with **Scattered Chart**
  - Tracking Organization KPI variables with **Card, and KPI Card**
  - Using **Tables, and Matrix**
  - Importing Custom Visuals from Marketplace
  - **Maps, and other visuals**
- **Data Transformation (Cleaning) with Power Query**
- **Using Data Analysis Expression (DAX) Language**
  - Creating Dynamic Date Table
  - Calculated Columns and Measures
- **Creating Reports and Dashboards in a day**
- Using **Text Boxes, Shapes, Images.**

## Module 4. CAPSTONE PROJECT

Scenario-based case study with real life data.

## **Data Science & Machine Learning with Python Curriculum**

### **Training Provider**

**Company:** Scenario Academy

**Office:** LKJ House, 3/5 Adeyemo Alajika, Victoria Island, Lagos

**Office Hours:** 9:00am to 5:00pm

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### **Course Details**

#### **Duration**

- **Weekday:** Ten (10) days (Monday–Friday)
- **Weekend:** Eight (8) days (Saturday–Sunday)

#### **Description**

Data Science is about extraction, preparation, analysis, visualization, and maintenance of information. It is a cross-disciplinary field, which uses scientific methods and processes to draw insights from data.

With the emergence of new technologies, there has been an exponential increase in data. This has created an opportunity to analyze and derive meaningful insights from data. It requires special expertise of a 'Data Scientist' who can use various statistical and machine learning tools to understand and analyze data. A Data Scientist, specializing in Data Science, not only analyzes the data but also uses machine-learning algorithms to predict future occurrences of an event.

Therefore, we can understand Data Science as a field that deals with data processing, analysis, and extraction of insights from the data using various statistical methods and computer algorithms.

#### **Benefits**

- A workshop certificate issued after the training
- Post-training employability support and
- Mentored Learning Approach

# Course Outline

## **Introduction to Data Science**

### **Module 1- Introduction- Getting Started with Python**

- Brief review of what Data science is (Differences between a data analyst and a data scientist)
- Environment Set-up
- Overview of different Integrated Development Environment (Jupyter Notebook, Spyder, Pycharm)
- Exercise

### **Module 2- Handling Program Flow in Python**

- Exploring Data types- Numbers, Strings, Print Formatting, Lists, Dictionaries, Booleans, Tuples and Set
- Comparison Operators- IF, ELIF and ELSE statements, For loops, range(), List comprehension, Functions, Lambda Expression
- Take home work

### **Module 3- Handling Data with NumPy**

- Introduction to Numpy- Numerical Python
- Exploring one-dimensional array and two-dimensional arrays
- Numpy methods
- Numpy array indexing
- Numpy Operations

### **Module 4- Data Wrangling with Pandas**

- Introduction to Pandas
- Series and DataFrames
- GroupBy and Missing Data
- Merging, Joining and Concatenation
- Data Input and Output (Extract-Transform-Load)
- Pandas Operations

### **Module 5- Python for Data Visualization- Matplotlib & Seaborn**

- Introduction to Matplotlib
- Visualization with Matplotlib
- Introduction to seaborn, Visualizations with Seaborn

## **FOUNDATIONAL MACHINE LEARNING**

### **Module 6- Introduction to Machine Learning**

- What is machine learning?
- Types of machine learning- Supervised and Unsupervised

### **Module 7- Summarizing Data with Statistics**

- Data preparation with pandas
- Filling missing data

### **Module 8- Making inference from Data**

- Matplotlib and seaborn for inference

### **Module 9- Build your first model – Linear Regression**

- What is Linear regression
- Univariate Linear regression
- Multivariate linear regression
- EDA and Data Pre-processing
- Feature Engineering
- Improving Model with Feature Selection Technique
- Linear Regression

### **Other Machine Learning Algorithms**

- Logistic Regression
- Random Forests/Decision Trees
- SVM
- Naïve Bayes
- KNN

## **FINAL CAPSTONE PROJECT/ HACKATHON**