Data Analytics Course Syllabus

Introduction to Data Analytics

- Data Analytics Overview
- Importance of Data Analytics
- Types of Data Analytics
- Descriptive Analytics
- Diagnostic Analytics
- redictive Analytics
- Prescriptive Analytics
- Benefits of Data Analytics
- Data Visualization for Decision Making
- Data Types, Measure Of central tendency, Measures of Dispersion
- Graphical Techniques, Skewness & Kurtosis, Box Plot Descriptive Stats
- Sampling Funnel, Sampling Variation, Central Limit Theorem, Confidence interval

SQL

- Introduction to Oracle Database
- Retrieve Data using the SQL SELECT Statement
- Learn to Restrict and Sort Data
- Usage of Single-Row Functions to Customize Output
- Invoke Conversion Functions and Conditional Expressions
- Aggregate Data Using the Group Functions
- Display Data from Multiple Tables Using Joins
- Use Sub-Queries to Solve Queries
- The SET Operators
- Data Manipulation Statements
- Use of DDL Statements to Create and Manage Tables
- Other Schema Objects• Control User Access
- Management of Schema Objects• Manage Objects with Data Dictionary Views
- Manipulate Large Data Sets

- Data Management in Different Time Zones
- Retrieve Data Using Sub-queries
- Regular Expression Support

Tableau

Module 1: Tableau Course Material

- Start Page
- Show Me
- Connecting to Excel Files
- Connecting to Text Files
- Connect to Microsoft SQL Server
- Connecting to Microsoft Analysis Services
- Creating and Removing Hierarchies
- Bins
- Joining Tables
- Data Blending

Module 2: Learn Tableau Basic Reports

- Parameters
- Grouping Example 1
- Grouping Example 2
- Edit Groups
- Set
- Combined Sets
- Creating a First Report
- Data Labels
- Create Folders
- Sorting Data
- Add Totals, Sub Totals and Grand Totals to Report

Module 3: Learn Tableau Charts

- Area Chart Bar Chart
- Box Plot
- Bubble Chart
- Bump Chart
- Bullet Graph
- Circle Views

- Dual Combination Chart
- Dual Lines Chart
- Funnel Chart
- Traditional Funnel Charts
- Gantt Chart
- Grouped Bar or Side by Side Bars Chart
- Heatmap

- Highlight Table
- Histogram
- Cumulative Histogram
- Line Chart
- Lollipop Chart
- Pareto Chart
- Pie Chart
- Scatter Plot
- Stacked Bar Chart
- Text Label
- Tree Map
- Word Cloud
- Waterfall Chart

Module 4: Learn Tableau Advanced Reports

- Dual Axis Reports
- Blended Axis
- Individual Axis
- Add Reference Lines
- Reference Bands Reference Distributions
- Basic Maps
- Symbol Map
- Use Google Maps
- Mapbox Maps as a Background Map
- WMS Server Map as a Background Map

Module 5: Learn Tableau Calculations & Filters

- Calculated Fields
- Basic Approach to Calculate Rank
- Advanced Approach to Calculate Ra

- Calculating Running Total
- Filters Introduction
- Quick Filters
- Filters on Dimensions
- Conditional Filters
- Top and Bottom Filters
- Filters on Measures

- Context Filters
- Slicing Fliters
- Data Source Filters
- Extract Filters

Module 6: Learn Tableau Dashboards

- Create a Dashboard
- Format Dashboard Layou
- Create a Device Preview of a Dashboard
- Create Filters on Dashboard
- Dashboard Objects
- Create a Story

Module 7: Server

- Tableau online.

- Overview of Tableau Server.

- Publishing Tableau objects and scheduling/subscription

Power BI

Module 1: Introduction to Power BI

- Get Started with Power BI

- Overview: Power BI concepts

- Sign up for Power BI

- Overview: Power BI data sources

- Connect to a SaaS solution

- Upload a local CSV file

- Connect to Excel data that can be refreshed

- Connect to a sample

- Create a Report with Visualizations

- Explore the Power BI portal

Module 2: Viz and Tiles

- Overview: Visualizations

- Using visualizations

- Create a new report

- Create and arrange visualizations

- Format a visualization

- Create chart visualizations

- Use text, map, and gauge visualizations and save a report

- Use a slicer to filter visualizations

- Sort, copy, and paste visualizations

- Download and use a custom visual from the gallery

Module 3: Reports and Dashboards

- Modify and Print a Report

- Rename and delete report pages

- Add a filter to a page or report

- Set visualization interactions Print a report page

- Send a report to PowerPoint

- Create a Dashboard

- Create and manage dashboards

- Pin a report tile to a dashboard

- Pin a live report page to a dashboard

- Pin a tile from another dashboard

- Pin an Excel element to a dashboard

- Manage pinned elements in Excel

- Add a tile to a dashboard

- Build a dashboard with Quick Insights

- Set a Featured (default) dashboard

- Ask Questions about Your Data

- Ask a question with Power BI Q

- &A Tweak your dataset for Q&A

- Enable Cortana for Power BI

Module 4: Publishing Workbooks and Workspace

- Share Data with Colleagues and Others

- Publish a report to the web

- Manage published reports

- Share a dashboard

- Create an app workspace and add users

- Use an app workspace

- Publish an app

- Create a QR code to share a tile

- Embed a report in SharePoint Online

Module 5: Other Power BI Components and Table Relationship

- Use Power BI Mobile Apps

- Get Power BI for mobile

- View reports and dashboards in the iPad app

- Use workspaces in the mobile app Sharing from Power BI Mobile

- Use Power BI Desktop

- Install and launch Power BI Desktop

- Get data• Reduce data

- Transform data

- Relate tables

- Get Power BI Desktop data with the Power BI service

- Export a report from Power BI service to Desktop

Module 6: DAX functions

- New Dax functions

- Date and time functions

- Time intelligence functions

- Filter functions

- Information functions

- Logical functions

- Math• & trig functions

- Parent and child functions

- Text functions

Python Basics

- The print statement

- Comments

- Python Data Structures & Data Types

- String Operations in Python

- Simple Input• & Output Simple Output Formatting

- Deep copy

- Shallow copy

- Operators in python

Excel: Basics to Advanced

- Excel tutorial
- Text to Columns
- Concatenate The Concatenate Function

- The Right Function with Concatenation
- Absolute Cell References
- Data Validation
- Time and Date Calculations
- Conditional Formatting
- Exploring Styles and Clearing Formatting
- Using Conditional Formatting to Hide Cells
- Using the IF Function
- Changing the "Value if false" Condition to Text
- Pivot Tables
- Creating a Pivot Table
- Specifying PivotTable Data
- Changing a PivotTables Calculation
- Filtering and Sorting a PivotTable
- Creating a PivotChart
- Grouping Items
- Updating a PivotTable
- Formatting a PivotTable
- Using Slicers
- Charts
- Creating a Simple Chart
- Charting Non-Adjacent Cells
- Creating a Chart Using the Chart Wizard
- Modifying Charts
- Moving an Embedded Chart
- Sizing an Embedded Chart
- Changing the Chart Type
- Chart Types
- Changing the Way Data is Displayed
- Moving the Legend
- Formatting Charts Adding Chart Items
- Formatting All Text
- Formatting and Aligning Numbers

- Formatting the Plot Area
- Formatting Data Markers
- Pie Charts
- Creating a Pie Chart
- Moving the Pie Chart to its Own Sheet
- Adding Data Labels
- Exploding a Slice of a Pie Chart
- Data Analysis − Overview
- types of Data Analysis
- Data Analysis Process
- Working with Range Names

- Copying Name using Formula Autocomplete
- Range Name Syntax Rules
- Creating Range Names
- Creating Names for Constants
- Managing Names
- Scope of a Name
- Editing Names
- Applying Names
- Using Names in a Formula
- Viewing Names in a Workbook
- Copying Formulas with Names
- Difference between Tables and Ranges
- Create Table
- Table Name
- Managing Names in a Table
- Table Headers replacing Column Letters
- Propagation of a Formula in a Table
- Resize Table Remove Duplicates
- Convert to Range• Table Style Options
- Table Styles
- Cleaning Data with Text Functions
- Removing Unwanted Characters from Text
- Extracting Data Values from Text
- Formatting Data with Text Functions
- Date Formats
- Conditional Formatting
- Sorting
- Filtering
- Lookup Functions
- Pivoting

Business Statistics

Introduction to Statistical Analysis

- Counting, Probability, and Probability Distributions
- Sampling Distributions
- Estimation and Hypothesis Testing
- Scatter Diagram
- Anova and Chisquare
- Imputation Techniques
- Data Cleaning
- Correlation and Regression

WITH INDUSTRIAL LIVE PROJECTS