

Certified Data Analyst

Total Duration: 64 Hours (8 Days)
(Excel-SQL-Tableau+ Base SAS Programming)

Course Content: Excel	
<p>Exploratory Data Analysis Using Excel</p> <p>Introduction to Excel</p> <ul style="list-style-type: none"> • Navigating Worksheets • Formatting and Editing Worksheet Data • Grouping Data, Subtotals and Data Validation <p>Working with Formulas and Functions</p> <ul style="list-style-type: none"> • Referencing Functions • Filter, advance filter • Conditional formatting <p>Creating Charts and Graphics</p> <ul style="list-style-type: none"> • Simple charts • Pie charts <p>Analyzing Data with Excel</p> <ul style="list-style-type: none"> • Consolidating Worksheets (VLOOKUP/HLOOKUP, INDEX, MATCH, etc) • Using Pivot Tables <p>Essentials, preparing data for the dashboard</p> <ul style="list-style-type: none"> • A review of essential functions • Logical functions • IF, AND, OR, CHOOSE • Error checking • Statistical functions (aggregation) • Average/IFs, Sum/IFs, Count/IFs • Rank, quartile, decile, percentile • Standard deviation, correlation, mean, median • Date functions • TODAY, DATE, EDATE • Text functions • CLEAN, TRIM, LEFT, MID, RIGHT • Importance of range names and Name Manager • Referencing & Ranges • Data validation • Data integrity issues • Setting validation • Cleaning invalid data 	<p>Data Prep & Reduction techniques</p> <ul style="list-style-type: none"> • Need for data preparation • Outlier treatment • Flat-liners treatment • Missing values treatment <p>Data Analytics Using Excel</p> <ul style="list-style-type: none"> • Basic statistics; descriptive and summary • Frequency, crosstabs • Best in class evaluation • Performance benchmarking • Correlation analysis • Key drivers analysis • Association analysis • Rules based Segmentation • Interpretation of results <p>Visual Analytics (Reporting & Dash boarding) Using Excel</p> <p>Overview of Dash boarding</p> <ul style="list-style-type: none"> • What is dash board & Excel dash board. • Principles of great dashboard design • Common mistakes dashboard design • Selecting the correct chart to display data • Adding icons and images to dashboards • Effective use of colour and logos • Making dashboards dynamic <p>Deciding On Dashboards</p> <ul style="list-style-type: none"> • Deciding On Dashboards • Reports, Dashboards And Scorecards • Selecting Measures And Metrics <p>Essentials, preparing data for the dashboard</p> <ul style="list-style-type: none"> • A review of essential functions • Logical functions • IF, AND, OR, CHOOSE • Error checking

Certified Data Analyst

Total Duration: 64 Hours (8 Days)

(Excel-SQL-Tableau+ Base SAS Programming)

Course Content:

<p>Statistical functions(aggregation)</p> <ul style="list-style-type: none">•AVERAGE/IFs, SUM/IFs, COUNT/IFs•MEDIAN, TREND, FORECAST•Look up functions•VLOOKUP, INDEX, MATCH, OFFSET <p>Essentials, preparing data for the dashboard</p> <ul style="list-style-type: none">•Date functions•TODAY, DATE, EDATE•Text functions•CLEAN, TRIM, LEFT, MID, RIGHT•Importance of range names and Name Manager•Referencing & Ranges•Data validation•Data integrity issues•Setting validation•Cleaning invalid data <p>Understanding which Excel tools are essential for dashboards</p> <ul style="list-style-type: none">•Conditional formatting•Conditional formatting basics•Conditional format manager•Tips and tricks•Excel Tables•Pivot tables – Advanced features•Comprehensive overview•Grouping fields•Calculated fields•Using slicers <p>Charting (Pivot Charts & Normal Charts)</p> <ul style="list-style-type: none">•Pivot Charts & Visual Dash boarding Techniques•How to select the Right Charts for your Data<ul style="list-style-type: none">•Overview of chart types and their suitability to dashboards•Bar, Line, Bubble charts•Advance charting<ul style="list-style-type: none">•Combining different chart types within one plot area	<ul style="list-style-type: none">• Saving and using chart templates•Interactive charts•Charts tips and tricks <ul style="list-style-type: none">•Creating and customizing Charts•New Features of Excel – sparklines etc.•Design principles for including charts in dashboards <p>Advanced Power Charting Techniques</p> <ul style="list-style-type: none">•Thermometer Chart•Doughnut Chart•Pareto chart•Panel Chart•Step Chart <p>Visual Analytics (Reports & Dashboards) Using Excel</p> <p>Adding ActiveX controls</p> <ul style="list-style-type: none">•Why use ActiveX controls•Linking charts to Form controls•Add dashboard interactivity via controls•Dropdown lists•Check boxes•Spin buttons <p>Trends & Scenarios</p> <ul style="list-style-type: none">•Calculating a trend•Inserting trend lines on charts•Creating scenarios•Options for choosing different scenarios <p>Creating your Excel Dashboards</p> <ul style="list-style-type: none">•Dashboard Do's and Don't's•Data Layout Creating Dynamic Dashboards•Merging and Consolidating Data Using Shapes to make Charts more attractive•Using Alerts to draw attention to dashboards•Creating user defined charts
--	--

Certified Data Analyst

Total Duration: 64 Hours (8 Days)
(Excel-SQL-Tableau+ Base SAS Programming)

Macros

- Macros basics
- Automating with useful macros

Bullet-proofing your Dashboards

- Protect dashboards by locking cells
- Password Protection
- Restricting incorrect data entry with data validations
- Using worksheet protection to prevent entry
- Protecting your dashboard files using “Read Only” and password protection

Practical Dashboard Creation: Hands-on Dashboard Creation

- Complete Management Dashboard for Sales & Services
- Creating a Sales Dashboard
- Creating a Services Dashboard
- Creating a HR Dashboard
- Best Practices in Dashboard Design

Certified Data Analyst

Total Duration: 64 Hours (8 Days)

(Excel-SQL-Tableau+ Base SAS Programming)

RBMS/RDBMS using SQL

Introduction to MS Access

- What are Databases
- Create and Modify Tables
- Working with Tables
- Form Designing
- Report Designing

What is SQL – A Quick Introduction

Getting started

- SQL Management Studio
- Utilizing the Object Explorer

Understanding basic RDBMS concepts

- Schema –Meta Data –ER Diagram
- Looking at an example Database design
- Data Integrity Constraints & types of Relationships
- Basic concepts – Queries, Data types & NULL Values, Operators and Comments in SQL
- Rest of the story – Joins, Indexes, Functions & Views

Data manipulation – Reading & Manipulating a Single Table

- Basic Select statement
- Additional components – Where, Group By, Order by & Having clauses

Data based objects creation(DDL Commands)

- Creating, Modifying & Deleting Tables
- Create Table & Create Index statements
- Insert, Update & Delete statements
- Drop & Truncate statements – Uses & Differences
- Alter Table & alter Column statements

Data based objects creation(DDL Commands)

- Creating, Modifying & Deleting Tables
- Create Table & Create Index statements
- Insert, Update & Delete statements
- Drop & Truncate statements – Uses & Differences
- Alter Table & alter Column statements

Optimizing your work

- Sub-queries vs. Temp Tables vs. Joins
- Stored Procedures
- Optimizing for Composite keys & Non-numeric Primary keys

Data manipulation – Case Study-1

- Creating a 360 Deg. Customer view

Data manipulation - Case Study -2

- Deciling using the n-tile function
- Row number & Partition by clause

Certified Data Analyst

Total Duration: 64 Hours (8 Days)

(Excel-SQL-Tableau+ Base SAS Programming)

Visual Analytics using Tableau

Getting started

- Introduction to Tableau & Architecture
- My Tableau Repository
- Connecting to Data sources
- Understanding the Tableau workspace
- Dimensions and Measures
- Data Types & Default Properties
- Tour of Shelves & Marks Card
- Building basic views
- Saving and Sharing your work-overview

Data Manipulation

- Sorting
- Trend lines
- Reference Lines
- Forecasting
- Filters
- Context filters
- Sets
 - In/Out Sets
 - Combined Sets
- Grouping
- Bins/Histograms
- Drilling up/down – drill through
 - Hierarchies/View data
 - Actions (across sheets)

Basic Data Analysis

- Date Aggregations and Date parts
- Cross tab & Tabular charts
- Totals & Subtotals
- Bar Charts & Stacked Bars
- Line Graphs with Date & Without Date
- Tree maps
- Scatter Plots
- Individual Axes, Dual Axes & Combination chart
- Parts of Views

Maps

- Explain latitude and longitude
- Default location/Edit locations

- Symbol Map & Filled Map
- Custom Geo Coding

Calculated Fields

- Working with aggregate versus disaggregate data
- Explain - #Number of Rows
- Basic Functions (String, Date, Numbers)
- Usage of Logical conditions
- Explain scope and direction of table calculations
- Percent of Total, Running / Cumulative calculations

Parameters

- Create What-If analysis
- Using Parameters in
 - Calculated fields
 - Bins
 - Reference Lines
 - Filters/Sets
- Display Options (Dimension/Measure Selection)

Building & customizing Dashboards

- Combining multiple visualizations into a dashboard (overview)
- Making your worksheet interactive by using actions Filter/URL /Highlight
- Options in Formatting your Visualization
- Working with Labels and Annotations
- Effective Use of Titles and Caption

Working with Data

- Multiple Table Join
- Data Blending
- Difference between joining and blending data, and when we should do each
- Working with the Data Engine / Extracts
- Working with Custom SQL
- Toggle between to Direct Connection and Extracts

Certified Data Analyst

Total Duration: 64 Hours (8 Days)
(Excel-SQL-Tableau+ Base SAS Programming)

BASE SAS

Introduction To Data Science – SAS

- Analytics World
- Introduction to Analytics
- ETL concept and role of SAS in ETL
- SAS in advanced analytics
- SAS Certification: Induction and walk through

Accessing Data

- Use formatted and list input to read raw data files.
- Use infile statement options to control processing when reading raw data files
- Use various components of an input statement to process raw data files including column and line pointer controls, and trailing @ controls.
- Combine SAS data sets.
- Access an Excel workbook.

Creating Data Structures

- Create temporary and permanent SAS data sets.
- Create and manipulate SAS date values.
- Export data to create standard and Comma delimited raw data files.
- Control which observations and variables in a SAS data set are processed & output.

Managing Data

- Investigate SAS data libraries using base SAS Utility procedures.
- Sort observations in a SAS data set.
- Conditionally execute SAS statements.
- Use assignment statements in the data step.
- Modify variable attributes using options and Statements in the data step.
- Accumulate sub-totals and totals using data step statements.
- Use SAS functions to manipulate character data, numeric data, and SAS date values.

Managing Data

- Use SAS functions to convert character data to numeric and vice versa.
- Process data using do loops.
- Process data using one-dimensional SAS arrays.
- Validate and clean data.

Handling Errors

- Identify and resolve programming logic errors.
- Recognize and correct syntax errors.
- Examine and resolve data errors.

Generating Reports

- Generate list reports using the print procedure.
- Generate summary reports and frequency tables using base SAS procedures.
- Enhance reports through the use of user-define formats, titles, footnotes and SAS System reporting.
- Generate reports using ODS statements.