Data Analyst Curriculum

- **Introduction to Data Analysis using Excel and VBA**
    - Introduction to Data Analysis
    - Types of Data – Structured, Semi-Structured and Unstructured
    - Introduction to Excel Spreadsheets
    - Spreadsheets Functions to Organise Data
    - Introduction to Pivot Tables, Charts, Formulas and Filters
    - Graphing and Charting using Excel
    - Excel Macros
    - Understanding Visual Basic Editor
    - VBA Sub-procedures
    - Manipulating cells in VBA
    - Variables Handling
    - Functions in VBA
    - VBA Object Model
    - Object Properties and Methods
    - Manipulating Workbooks

- **RDBMS and Advanced SQL**
    - Introduction to RDBMS
    - Introduction to SQL
    - Introduction to Database Systems
    - Introduction to OLTP and OLAP
    - Introduction to ACID Properties
    - Database, Tables, Records, Keys
    - DataTypes, Operators, Expressions
    - DDL
    - DML
    - DCL
    - SQL Constraints
    - Where Clause and Having Clause
    - Like Clause and Top Clause
    - Order By and Group BY
    - Distinct and Sorting outputs
    - Joins, Union and Set operations
    - Null Values and Alias
    - Indexes
    - Alter and Truncate
    - Views and Materialized Views
    - SQL Wildcards
    - Date Functions
    - Temporary Tables

- o Sub Queries
- o Handling Duplicates
- o SQL Query Tuning
- o Introduction to PLSQL
- o Advanced PLSQL
- o Introduction to SCD
- o Types of SCD

- **Data Warehousing Concepts**
  - o Need of OLAP
  - o OLAP vs OLTP
  - o Introduction to Data Mart and Data Lake
  - o Querying Model
  - o DWH Schemas
  - o Partition Strategy and Metadata
  - o Adhoc Queries
  - o Data Modelling
  - o Introduction to ETL
  - o Best Practices in ETL
  - o Introduction to Business Intelligence
  - o Business Intelligence Practices
  - o Introduction to Cloud Data Warehouse
  - o Introduction to Data Quality

- **Microsoft SSIS**
  - o Why SSIS
  - o SSIS Architecture and Features
    - Control Flow
    - Precedence Constraints
    - Task and Containers
    - Types of Containers
    - Data Flow
    - Packages
    - Parameters
  - o SSIS Task Types
  - o SSIS Best Practices

- **Microsoft SSRS**
  - o Introduction to SSRS
  - o SSRS Architecture
    - Report Builder
    - Report Designer
    - Report Manager

- - - Report Server
    - Report Server Database
    - Data Sources and Dataset
  - Types of SSRS Reports
- **Power BI**
  - Introduction to Power BI
  - Power BI Architecture
  - Supported Data Sources
  - Data Modelling in Power BI
  - Power BI Charts
  - Filters in Power BI
  - DashBoard Options
  - Visualization Options
  - Excel Integration
  - https://docs.microsoft.com/en-us/learn/paths/create-use-analytics-reports-power-bi/
- **Azure Data Fundamentals**
  - Explore core data concepts.
  - Concepts of relational data
  - Concepts of non-relational data
  - Concepts of data analytics
  - https://docs.microsoft.com/en-us/learn/paths/azure-data-fundamentals-explore-core-data-concepts/