**Data Analytics - Course Curriculum**

# Table of Contents

[**Table of Contents**](#_wp0fn5m1in3q) **1**

[**Unit 1 - Weeks 1-3**](#_p9v1vzhf4vf0) **2**

[Excel](#_kcguq61ab5fk) 2

[Advance Excel](#_ym61r66dahnn) 2

[**Unit 1 - Week 4 - Week 5**](#_aa184fxa6okz) **2**

[Basic SQL](#_8waf6g2yjnge) 2

[**Unit 2 - Week 6 - Week 10**](#_21ptox5p1jh7) **3**

[Python](#_577jr4f28wwf) 3

[Python for Data Science](#_qd7praom8i7z) 3

[**Unit 3 - Week 11 - 15**](#_mjmlz0r9dk62) **4**

[Guesstimates](#_hqluvc4zm3mk) 4

[Advanced SQL](#_l5cqvtc1z8aj) 4

[**Unit 4 - Week 16 - Week 20**](#_9fmkjyg8je47) **4**

[Case Studies](#_k80m44awpbd9) 4

[Tableau](#_v45whuroxktn) 5

[Probability and Statistics](#_789wuc18fbr0) 5

[**Unit 5 - Week 21 - Week 25**](#_33ew469qqmpb) **6**

[Machine Learning](#_92r710xk2fez) 6

[**Unit 6 - Week 26 - Week 30**](#_1tf3ysiazoly) **6**

# 

# **Unit 1 - Weeks 1-3**

## Excel

* Introduction to Excel
* Text Formatting
* Cell Formatting
* Conditional Formatting
* Operators
* Cell Referencing
* Auto Fill and Flash Fill
* Mathematical and Logical Functions
* Nested If Function

## Advance Excel

* Named Ranges
* Data Validation
* Lookup Functions
* Pivot Tables
* Chart and slicers
* Dashboarding
* Power query

# **Unit 1 - Week 4 - Week 5**

## Basic SQL

* CRUD - Create, Read, Update, Delete
* Primary Key, Foreign Keys
* Select , Where, Order by
* Group By, Having
* Case When, Set Operators
* Joins - Inner, Left, Right Joins
* LIKE Operator

# **Unit 2 - Week 6 - Week 10**

## Python

* Introduction to Python
* Computer Programming Data Types
* Variables
* Basic Input-Output Operations
* Basic Operators
* Boolean Values
* Conditional Execution
* Loops
* Lists and List Processing
* Functions
* Tuples
* Dictionaries and Sets
* Data Processing
* Modules
* Packages
* String and List Methods
* Exceptions
* Exception Handling
* Working with Files

## Python for Data Science

* Introduction to Numpy
* Introduction to Pandas
* Data Wrangling in Pandas
* Matplotlib

# 

# 

# 

# 

# **Unit 3 - Week 11 - 15**

## Guesstimates

* Introduction to Guesstimates
* Different Approaches
* Hacks to solve Guesstimates

## Advanced SQL

* Joins and Unions
* Analytic Functions
* Date and String Functions
* Nested and Repeated Data
* Sub queries, CTEs, Views, Temp Tables
* Window Functions
* Pivot Tables and Dynamic Variables
* Stored Procedures and Triggers
* ACID Properties
* Indexing

# **Unit 4 - Week 16 - Week 20**

## Case Studies

* Introduction to Case Studies
* Profitability Framework
* Market Entry Framework
* Pricing and Abstract Cases

## Tableau

* Introduction
* Basic Visualizations
* Sets, Parameters, groups,
* Calculated Fields
* custom visualizations
* Dashboards & Stories
* Data Storytelling and visual narratives

## Probability and Statistics

* Statistical Inference
* Frequency Distributions
* Descriptive Measures
* Permutation and Combination
* De Morgan’s Law
* Simple and Compound Event
* Set Theory
* Conditional probability
* Bayes theorem
* Independent events
* Random variable
* Bernoulli's random variable
* Cumulative Distribution Function,
* Expectation and Variance
* Introduction to Binomial experiment
* Binomial random variable Mean and variance
* Continuation to Continuous Random Variables ,PDF & CDF of continuous RV
* Intro to Percentile of a Distribution
* Normal Distribution
* Standard Normal Distribution, Percentile,
* Z Notation for Z critical values
* Normal to Standard Normal
* Normal Approximation to Binomial Distribution

# 

# **Unit 5 - Week 21 - Week 25**

## Machine Learning

* Introduction to Machine Learning
* Reducing Loss
* Tensor Flow & Generalisation
* Parameter Tuning and Model Optimization
* Regression and Classification
* Feature Engineering
* Logistic Regression
* Regularisation
* Decision Tree
* SVM
* K Means Clustering
* Dimensionality Reduction
* Gradient Boosting
* Artificial Neural networks

# **Unit 6 - Week 26 - Week 30**

* Revision
* Projects
* Interview Preparation