DATA SCIENCE COURSE CONTENT

- **Data Modelling**
- Descriptive / Inferential statistics
- Various data types
- Exploratory data Analysis
- Random Variables
- Probability
- Distributions
- Probability Distributions
- Discrete Probability distribution’
- Continuous probability distribution

- **Model Fitting**
- How to fit the data
- Hypothesis test
- Fitting a linear model
- Discrete terms
- Multivariate models
- Interaction terms
- Generalised models

- **Model Selection**
- How to select an algorithm
- Predictive Accuracy
- Cross validation
- Estimates of predictive accuracy
- Model under fitting and over fitting

- K-NN
- Theory on K-NN
- Case study approach
- Hands on using R & Python
- Bayesian classifier
- Theory on Naïve Bayes
- Case study approach
- Hands on using R and Python
- k-Means cluster
- Distance measures
- Case study approach
- Hands on using R & Python
- Agglomerative clustering
- Case study approach
- Hands on using R & Python

- Text Mining
- Sentimental Analysis using R & Python
- Kernel SVM classifier
- Theory on SVM
- Case study approach
- Hands on using R & Python
- Neural Networks
- Simple neural Network
- Multi-layer perceptron
- Hidden Layers
- Hands on using R & python

- **Data Wrangling using R**
- Data Frame
- Matrices
- Vectors
- Lists
- Packages
- Reading different data into R
- Graphical representation
- Imputation
- Dummy Variable creation
- Summary statistics
- Correlation
- Covariance

- **Data Visualization**
- Understand Tableau Desktop Architecture and how to use Tableau in real life
- Tableau statistics and Tableau interactive dashboard
- Master Tableau Reporting, Graphs, Maps, Table Calculation
- Simplify and organize data with data connections
- Master Special Field Types and Tableau Generated Fields
- Learn to implement Data Aggregation and Data Blending in tableau
- Understand R Connectivity with Tableau
- Gain knowledge on using R scripts in Tableau
- Perform real time analytics and Tableau data visualization
- Prepare for Tableau Desktop Qualified Associate Exam