Data Science Curriculum

**Module one : Programming Essentials with python**

Unit 1: Python Basics

Unit 2: Control Structures

Unit 3: Containers

Unit 4: Modules and Functions

Unit 5: Files and Exception Handling

Unit 6: Object Oriented programming

**Module Two: Statistics and Probability**

Unit 1: Descriptive statistics

Unit 2: probability Concepts

Unit 3: Inferential Statistics and regression analysis

Projects for module 1 and 2:

1. Building of a system that simulates the prediction of age of individuals

2. Developing a guessing game

3. Development of Point of Sale System

4. Building an expense Tracker

**Module Three: Story Telling and Data Visualization with numpy matplotlib**

Unit 1: ndArray, attributes and methods

Unit 2: Array operations, indexing and slicing

Unit 3: Linear Algebra

Unit 4: Data visualization with matplotlib

Projects: 1. Story telling with the titanic Data set

2. Exploring Data set on Movie rating and alcohol Consumption by country

**Module four: Exploratory Data Analysis and Preprocessing with Pandas and seaborn**

Unit 1: Intro. to Series and DataFrame objects

Unit 2 : DataFrame methods and attributes

Unit 3: indexing, slicing and DataFrame opeartions

Unit 4: Data imputation (Handling Missing Data)

Unit 5: Feature Scaling and Handling of Categorical Data

Unit 6: Data Visualization with Pandas and Seaborn