**Course structure :**

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| **Module** | **Mojor Modules** | **Sub- Module Name** | **Chapter Title** |
| 1 | Introduction to Data Science | Introduction to Data Science | Overview of Data Science |
| Getting Started with Analytics |
| Understanding Types of Data |
| Programming in R & PYTHON | Programming in R and Python – Libraries |
| Data Manipulation |
| Data Preparation / Tackling Missing Values |
| Data Exploration |
| 2 | Data Management | Data Management | Data Collection |
| Introduction to Database Management Systems |
| MySQL |
| Big data | Hadoop over view |
| Spark |
| 3 | Data Visualization | Data Discovery and Visualization | Introduction to Data Visualization |
| The world of visualisation |
| Grammar of Graphics |
| Controlling Parameter |
| Visualizing Unstructured Information |
| Talking to visuals / Dashboard |
| Art of Storytelling |
| 4 | Applied Statistics | Complete Business Statistics | What Is Statistics |
| Visualizing the Data |
| Describing Data Through Statistics |
| Distributions of the Sample Mean,Proportion and Sampling Techniques |
| Testing Hypotheses about Single Population Parameters |
| Analysis of Variance |
| Introduction to Regression Analysis and Correlation |
| Basic Multiple Regression Analysis |
| Advanced Multiple Regression Analysis |
| Logistic Regression |
| Count Data Regression |
| Going Beyond Linear Regression |
| 5 | Data Mining & Machine Learning in PYTHON | Forecasting models, Optimization technics, model building tricks | Recommendation Engines |
| Business Forecasting |
| Natural Language Processing |
| Unsupervised Learning | PCA / Reduction and Selection |
| Classification and feature selection |
| Cluster Analysis |
| Market Basket Analysis |
| Supervised Learning | Decision Trees & Entropy, Random forest, SVM, KNN, ANN, GBM, Model Assessment Image recognition,NLP using Python |
| 6 | Analytics Applications in Business Functions –case studies |  | Human Resource Analytics |
| Marketing Analytics |
| Health Care Analytics |
| Retail Analytics |
| BFSI |
| Telecom |
| 7 | Deep learning | Deep learning | NVIDIA Training |