Become a Data Science Professional
The most promising career in the 21st century

Data Scientist Track
CDS Course Syllabus

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Instructor led training is the most important phase of the course. DataMites provides flexible learning channels for the Phase – 2

- Traditional Classroom Training
- Live Instructor Led Online Training
- Self Paced Learning / E-learning

Regular Classroom Trainings are conducted in all major cities including Amsterdam (NL), Singapore (SG), Bangalore (IND), Chennai (IND), Hyderabad (IND) etc.,

Live Instructor Led Online Training is aligned with regional time-zones including USA, UK, Europe, India and Australia.
# Data Scientist Track SYLLABUS

**Certified Data Scientist - 10 Courses Bundle**

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- **Course Duration**: 2 Months / 64 Hours
- **Course Fee**: INR. 88,000/-
- **5+ Live Client Projects**
- **24x7 Data Science Cloud lab access for 1 year**
- **Placement Assistance Included**
1. Data Science Foundation
Data Scientist Track – Core Module
Course ID: DS1016

Module 1  Introduction to Data Science
Evolution of Data Science

Module 2  Data Science vs Business Analytics vs Big Data
Comparing various related domains with Data Science

Module 3  Classification of Business Analytics
Descriptive Analytics, Predictive Analytics, Discovery Analytics and Prescriptive Analytics

Module 4  Data Science project workflow
6 States of Data Science Project workflow

Module 5  Various Roles in Data Science
Industry roles and responsibilities

Module 6  Application of Data Science in various industries

Duration: 8 Hrs.
1-Day Classroom / 3-Day
Online Training

Course Fee: INR. 18,000/-

5+ Industry Projects

24x7 Data Science Cloud lab access for 1 year

Placement Assistance Included
Module 1  Introduction to Data Science with Python  
Installing Python, Programming basics, Native Data types

Module 2  Python Basics: Basic Syntax, Data Structures  
Data objects, Math, comparison operators, condition statements, loops, lists, tuples, sets, dicts, functions

Module 3  Numpy Package  
Overview, Array, selecting data, Slicing, Iterating, Array Manipulations, Stacking, Splitting arrays, Key functions

Module 4  Pandas Package  
Overview, Series and DataFrame, Data manipulation.

Module 5  Python Advanced: Data Mugging with Pandas  
Histogram, grouping, aggregation, treating missing values, removing duplicates, Transforming data

Module 6  Python Advanced: Visualization with Matplotlib

Module 7  Exploratory Data Analysis:  
Data Cleaning, Data Wrangling

Module 8  Exploratory Data Analysis: Case Study

Duration : 8 Hrs.  
1-Day Classroom / 3-Day Online Training

Course Fee : INR. 18,000/-

5+ Industry Projects

24x7 Data Science Cloud lab access for 1 year

Placement Assistance Included
Module 1  Introduction to Statistics
Descriptive and Inferential Statistics. Definitions, terms, types of data

Module 2  Harnessing Data
Types of Sampling Data. Simple random sampling, Stratified, Cluster sampling. Sampling error.

Module 3  Exploratory Analysis
Mean, Median and Mode, Data variability, Standard deviation, Z-score, Outliers

Module 4  Distributions
Normal Distribution, Central Limit Theorem, Histogram, Normalization, Normality tests, skewness, Kurtosis.

Module 5  Hypothesis & computational Techniques
Hypothesis Testing, Null Hypothesis, P-value, Type I & II errors, parametric testing: t-tests, anova test, non-parametric testing

Module 6  Correlation & Regression
4. Machine Learning Associate
Data Scientist Track – Core Module
Course ID: DS1030

Module 1  Machine Learning Introduction
What is ML? ML vs AI. ML workflow, statistical modeling of ML. Application of ML

Module 2  Machine Learning Algorithms
Popular ML algorithms, clustering, classification and regression, supervised vs unsupervised. Choice of ML

Module 3  Supervised Learning
Simple and Multiple Linear regression, KNN, and more.

Module 4  Linear Regression and Logistic Regression
Theory of Linear regression, hands on with use cases

Module 5  K-Nearest Neighbour (KNN)

Module 6  Decision Tree

Module 7  Naïve Bayes Classifier

Module 8  Unsupervised Learning
K-means Clustering.

Duration : 16 Hrs.
2-Day Classroom / 6-Day Online Training

Course Fee : INR. 27,000/-

5+ Industry Projects

24x7 Data Science Cloud lab access for 1 year

Placement Assistance Included
Module 1  Advanced Machine Learning Concepts  
Tuning with Hyper parameters. Popular ML algorithms, clustering, classification and regression, supervised vs unsupervised. Choice of ML

Module 2  Random Forest – Ensemble  
Ensemble theory, random forest tuning

Module 3  Support Vector Machine (SVM)  
Simple and Multiple Linear regression, KNN,

Module 4  Natural Language Processing (NLP)  
Text Processing with Vectorization, Sentiment analysis with TextBlob, Twitter sentiment analysis.

Module 5  Naïve Bayes Classifier  
Naïve Bayes for text classification, new articles tagging

Module 6  Artificial Neural Network (ANN)  
Basic ANN network for regression and classification

Module 7  Tensorflow overview and Deep Learning Intro  
Tensorflow work flow demo and intro to deep learning.

5. Machine Learning Expert  
Data Scientist Track – Core Module  
Course ID: DS1031

Duration : 16 Hrs.  
2-Day Classroom / 6-Day Online Training

Course Fee : INR. 36,000/-

5+ Industry Projects

24x7 Data Science Cloud lab access for 1 year

Placement Assistance Included
6. Time Series Analysis
Data Scientist Track – Core Module
Course ID: DS1074

1. What is Time Series?
2. Trend, Seasonality, cyclical and random
3. White Noise
4. Auto Regressive Model (AR)
5. Moving Average Model (MA)
6. ARMA Model
7. Stationarity of Time Series
8. ARIMA Model – Prediction Concepts
9. ARIMA Model Hands on with Python
10. Case Study Assignment on ARIMA

Duration: 4 Hrs.
1-Day Classroom / 2-Day Online Training
Course Fee: INR. 9,000/-
5+ Industry Projects
24x7 Data Science Cloud lab access for 1 year
Placement Assistance Included
7. Model Deployment - API
Data Scientist Track – Core Module
Course ID: DS1080

Module 1  Basics of Application Program Interface (API)
API basics, losing coupled architecture.

Module 2  Installing Flask and Flask_cors
Installation and configuring Flask and cross domain authentication.

Module 3  End of End ML project with API deployment
Complete project flow with API deployment and assessing through website.

Duration : 4 Hrs.
1-Day Classroom / 2-Day Online Training

Course Fee : INR. 9,000/-

5+ Industry Projects

24x7 Data Science Cloud lab access for 1 year

Placement Assistance Included
Module 1  Introduction to Deep learning

Module 2  Introduction to Image Basics
Image resolution, pixels, image manipulations with filters.

Module 3  Convolution Neural Network CNN Intro
CNN essentials, CNN Architecture, work flow of image classification with CNN

Module 4  Case Study: Keras–Tensorflow image classification
CNN hands on application for classification images of Cats and Dogs
Module 1  Tableau Introduction
Tableau Interface, Dimensions and measures, filter shelf, Distributing and publishing

Module 2  Connecting to Data Source
Connecting to sources, excel, data bases, api , pdf. Extracting and interpreting data.

Module 3  Visual Analytics
Charts and plots with Super Store data

Module 4  Forecasting
Forecasting time series data. Sales.
Module 1  Install SQL packages and Connecting to DB SQLalchemy, PyMySQL

Module 2  RDBMS (Relation Database Management) Basics Basics of SQL DB, Primary key, Foreign Key

Module 3  SELECT SQL command, WHERE Condition Retrieving data with SELECT SQL command and WHERE Condition to Pandas Data Frame.

Module 4  SQL JOINs Left Join, Right Joins, multiple joins

Duration: 4 Hrs. 1-Day Classroom / 2-Day Online Training
Course Fee: INR. 9,000/-
5+ Industry Projects
24x7 Data Science Cloud lab access for 1 year
Placement Assistance Included