



100% PLACEMENT ASSISTANCE



Data Science

Why Choose Cypher Analytica ?

- Industry-Leading Curriculum.
- Flexible Learning Options.
- Affordable with Flexible Payment Plans.
- Live Projects & Hands-on Experience.
- Recorded Videos & Study Material.
- Internship Opportunities.
- Industry-Relevant Certifications.
- Resume Building & Interview preparation.
- 100% Placement Support.

Data Science Curriculum (180 hours~6months)

Topic	Session Content	Duration (Hours)	Outcome of Session
Introduction to Data Science	Overview, Key Roles, Workflow, Real-World Applications, Tools	3	Understanding of the Data Science landscape and tools
Mathematics and Statistics for Data Science	Linear Algebra, Calculus, Probability, Descriptive & Inferential Statistics	8	Solid mathematical foundation for data analysis and model development
Programming for Data Science	Python Essentials, R Programming, Libraries (NumPy, Pandas, Matplotlib)	10	Ability to write basic programs and use libraries for data analysis
Data Collection and Cleaning	Data Sources, Import/Export, Handling Missing Values, Outlier Detection	6	Skills to collect and clean data for analysis
Exploratory Data Analysis (EDA)	Descriptive Statistics, Data Visualization, Feature Engineering	5	Ability to explore and understand data patterns and trends
Data Wrangling and Manipulation	Pandas for Data Manipulation, Time Series Handling, Large Datasets	6	Proficiency in organizing and preparing data for modeling
Statistical Analysis	Hypothesis Testing, Regression Analysis, Correlation vs. Causation	4	Understanding of statistical methods and their applications

Data Visualization and Storytelling	Principles, Interactive Visualizations, Storytelling Techniques	4	Skills to present data insights effectively using visualizations
Machine Learning Basics	Supervised vs. Unsupervised Learning, Model Evaluation	4	Knowledge of ML concepts and how to evaluate models
Supervised Learning Techniques	Regression, Classification, Ensemble Methods, Model Metrics	4	Ability to build and evaluate supervised learning models
Unsupervised Learning Techniques	Clustering, Dimensionality Reduction, t-SNE	5	Understanding and application of unsupervised learning techniques
Advanced Machine Learning Techniques	Ensemble Learning, Model Optimization Techniques	6	Mastery of complex ML techniques and hyperparameter tuning
Introduction to Neural Networks	Neural Network Basics, Structure, Activation Functions	4	Understanding the fundamentals of neural networks
Building Neural Networks	Forward Propagation, Backpropagation, Loss Functions, Regularization	6	Ability to construct and train neural networks
Deep Learning Techniques	CNNs, RNNs, LSTM, GANs, Autoencoders	10	Skills to build deep learning models for various applications
Natural Language Processing (NLP)	Text Preprocessing, Sentiment Analysis, Topic Modeling, Word Embeddings	6	Ability to analyze and extract insights from textual data

Time Series Analysis	Components, Forecasting, ARIMA, Model Evaluation	5	Skills to analyze and predict time-based data
Model Deployment and MLOps	Deployment Techniques, Introduction to MLOps, CI/CD Pipelines	6	Understanding of model deployment and lifecycle management
Case Studies and Real-World Projects	End-to-End Projects, Presenting Solutions, Business Impact	8	Experience in handling real-world data science projects and communication