Data Analytics With AI Syllabus

With AI

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Newly Updated 2026-27

3000+ Placed Students

650+ Job Recruiters

50+ Expert Trainers

470+ Projects Works

100% Placement Support

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CJC EdTech by Kunal Sir

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Behind Every Great Institute is a Great Founder



Mr. Kunal Sir

Director of CJC EdTech byKunal Sir.

Mr. Kunal Sonu, Director of **CJC EdTech by Kunal Sir,** holds a Master's degree in Computer Applications & has over **15+ years** of experience in Java/J2EE technologies. After resigning from Syntel, he pursued a career in teaching to provide in-depth knowledge and guidance to aspiring professionals. **Mr. Kunal** has delivered lectures at renowned institutions such as **Sinhgad Institutes, JSPM Group,** & **MMCOE, Pune.** With a passion for education, he is dedicated to helping **students achieve success in their careers.**

- **3000+** Placed Students
- **15+** Course Options
- **650+** Job Recruiters
- **50+** Expert Trainers

MySQL Foundation & Expert

Module 1: Introduction to MySQL



- Overview of Databases and SQL
- Introduction to MySQL and Installation
- MySQL Workbench and Command Line Interface
- Understanding Relational Database Management System (RDBMS)
- Creating and Managing Databases

Module 2: SQL Basics

- Data Types in MySQL
- Creating Tables (CREATE, DROP, ALTER)
- Inserting Data (INSERT INTO)
- Updating and Deleting Data (UPDATE, DELETE)
- Basic Data Retrieval (SELECT, WHERE, ORDER BY)

Module 3: Data Filtering and Aggregation

- Using WHERE, LIKE, IN, BETWEEN Operators
- Logical Operators (AND, OR, NOT)
- Aggregate Functions (COUNT, SUM, AVG, MIN, MAX)
- Grouping Data using GROUP BY and HAVING

Module 4: Advanced SQL Queries

- Joins (INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN)
- Subqueries and Nested Queries
- Using CASE Statements for Conditional Logic
- Window Functions (ROW_NUMBER, RANK, DENSE_RANK)

Module 5: Data Manipulation and Transactions

- Understanding ACID Properties
- Implementing Transactions (START TRANSACTION, COMMIT, ROLLBACK)
- Using Indexes for Performance Optimization
- Views (Creating, Modifying, and Dropping Views)
- Temporary Tables and Their Uses

Module 6: Data Import & Export

- Importing Data from CSV/Excel Files
- Exporting Data to CSV/Excel Files
- Using MySQL Workbench for Data Import/Export
- Working with Large Datasets

Module 7: Stored Procedures & Functions

- Introduction to Stored Procedures
- Creating and Using Stored Procedures
- User-Defined Functions (UDFs)
- Triggers and Events in MySQL

Module 8: Real-World Data Analytics with MySQL

- Analyzing Sales & Marketing Data
- Customer Segmentation and Insights
- Financial Data Analysis



Module 9: Final Project

- Hands-on Project with a Real-World Dataset
- MySQL Proficiency Test

Excel Foundation

Module 1: Introduction to Excel

- Overview of Excel Interface
- Workbook, Worksheets, Rows & Columns
- Data Entry and Formatting
- Basic Excel Functions
- Cell Referencing (Relative, Absolute)

Module 2: Data Handling and Cleaning

- Data Sorting and Filtering
- Removing Duplicates
- Text Functions
- Date & Time Functions
- Find & Replace, Go To Special

Advance Excel

Module 3: Advanced Functions & Formulas

- Logical Functions
- Lookup & Reference Functions
- Mathematical & Statistical Functions
- Working with Named Ranges

Module 4: Data Visualization with Charts

- Creating Charts (Basic & Advanced)
- Formatting Charts
- Conditional Formatting for Data Analysis

Module 5: Data Analysis using Pivot Tables & Pivot Charts

- Introduction to Pivot Tables
- Creating and Customizing Pivot Tables
- Sorting, Filtering, & Grouping Data in Pivot Tables
- Using Calculated Fields and Value Fields
- Creating Pivot Charts for Data Insights

Module 6: Power Query & Data Automation

- Introduction to Power Query
- Data Cleaning with Power Query
- Automating Data Refresh
- Importing and Transforming Data
- Combining Data from Multiple Sources

Module 7: Macros and VBA

- Recording and Running Macros
- Automating Repetitive Tasks
- Introduction to VBA Editor

Module 8: Case Studies & Real-World Applications

- Data Cleaning and Transformation

Module 9: Final Project

- Hands-on Project on Real-World Dataset
- Excel Proficiency Test

Python Foundation

1. Introduction to Python

- Overview & Features
- Installation & Setup

2. Python Fundamentals

- Variables & Data Types
- Operators (Arithmetic, Logical, Comparison, Bitwise, etc.)

3. Control Flow

- Conditional Statements (if, elif, else)
- Loops (for, while)

4. Functions in Python

- Function Definition & Calling
- Return Statement
- Lambda Functions

5. Data Structures

- Lists & Tuples
- Sets & Dictionaries

6. Object Oriented Programming

- Classes & Objects
- Constructors
- Inheritance
- Polymorphism
- Encapsulation
- Abstraction

EDA with Python

NumPy - Numerical Computing with Python

1. Introduction to NumPy

- Installing NumPy & Anaconda
- Jupyter Notebook Basics

2. Arrays in NumPy

- Creating Arrays
- Prefilled Arrays
- Operators
- Multidimensional Arrays (1D, 2D, 3D, ND)

3. Advanced Array Operations

- Generating Random Numbers
- Accessing Elements in ND Arrays

4. Data Handling with NumPy

- Importing & Exporting Data
- Saving & Loading Arrays
- Working with Datetime (Retrieve Date & Time)



5. Statistical Computations

- Mean, Median, Variance, Standard Deviation

Pandas - Data Manipulation & Analysis

1. Introduction to Pandas

- Overview & Installation
- Series & DataFrame Basics

2. Working with Series and Dataframes

- Typecasting Data
- Custom Indexing
- Converting Structures to Series

3. Reading & Writing Files

- Reading Excel, CSV, and JSON Files

4. Data Aggregation & Analysis

- Aggregate Functions on Series & DataFrames
- Methods in Pandas

5. Handling Missing Data

- Manipulation of data and data handling

6. Data Selection & Grouping

- Data Selection and Retrieval
- Groupby() for Aggregations
- Conditional Selection in Series

Important Statistical in Analytics

>Population >Sample >Mean >Median >Mode
>Range >Variance >Standerd Deviation >Correlation >Probability

Visual Analytics with Python

1. Matplotlib - Basic Plotting - Data Visualizations
2. Seaborn - Advanced Visualization - Customizing Visuals & Styling Graphs
3. Creating Dashboard with Python

R Language Foundation

1. Introduction of R Language

1. **Introduction to R -** Overview & Features | Installation & Setup
2. **R Fundamentals -** Syntax, Variables & Data Types | Operators
3. **Control Flow -** Conditional Statements (if, else, else-if) | Loops (for, while)

2. Data Structures in R

5. **Vectors in R -** Creating & Manipulating Vectors | Vector Operations
6. **Lists in R -** Creating & Accessing List Elements | Modifying Lists
7. **Matrices in R -** Creating & Indexing Matrices | Matrix Operations
8. **Arrays in R -** Creating & Accessing Arrays | Multi-Dimensional Arrays
9. **Data Frames & Factors in R -** Creating & Manipulating Data Frames | Factors & Their Use in Categorization

3. File Handling in R

10. **Reading & Writing Files -** Importing CSV, Excel, and JSON Files | Performing Operations on Files
11. **Data Manipulation & Cleaning -** Handling Missing Data | Data Cleaning Techniques

Data Visualization & Reporting with GGPlot2

12. **Graphical Representation of Data -** Plotting Basics | Graphical Representation using GGplot2

Tableau

1.Introduction to Tableau

- What is Tableau?
- Why Data Visualization?
- Excel vs BI Tools: Understanding the differences and when to use each.
- Top BI Tools: An overview of popular business intelligence tools.



2 .Tableau Products

- Development & Sharing Products:Overview of Tableau Desktop, Tableau Server,Tableau Public, etc.

3. Tableau Architecture

- Live vs Extract
- live connections & extract data
- File Types
- Desktop & Server Architecture

4 .Setting Up Tableau

- Install Tableau Public
- Get Datasets, Publish First Viz
- Tableau Interface Overview

5 .Combining Data

- Data Modeling
- Joins, Unions, Relationships
- Data Blending

6 .Tableau Metadata

- Data Types
- Dimensions & Measures
- Discrete vs Continuous

7 .Data Organization

- Renaming, Aliases
- Hierarchy
- Groups, Sets, Bins

8.Filtering & Sorting

- Creating & Customizing Filters
- Sorting

9 .Tableau Parameters & Actions

- Understanding Tableau Parameters
- Tableau Actions

10 .Tableau Calculations

- Functions
- ATTR(), Fixed, Exclude, Include

12.Charts & Dashboards

- Overview of various chart types
- Building Dashboard

Power BI

1. Introduction to Power BI

- Overview of Business Intelligence & Power BI
- Installing and Setting Up Power BI Desktop
- Understanding Power BI Components
- Connecting to Different Data Sources
- Importing Data and Data Refresh

2. Data Preparation and Cleaning with Power Query

- Understanding Power Query Editor
- Data Transformation
- Handling Missing Data and Duplicates

3. Data Modeling and Relationships

- Introduction to Data Modeling
- Creating and Managing Relationships between Tables

4. DAX (Data Analysis Expressions)

- Introduction to DAX and Its Importance
- Basic DAX Functions (SUM, AVERAGE, MIN, MAX)
- Logical Functions (IF, SWITCH)
- Aggregation and Filter Functions (CALCULATE, FILTER, ALL, DISTINCT)
- Time Intelligence Functions

5. Data Visualization and Reporting

- Introduction to Power BI Visuals
- Creating and Customizing Charts (Bar, Line, Pie, Map, Table, Matrix)
- Using Slicers and Filters for Interactive Reports
- Creating Drill-Through and Drill-Down Reports
- Conditional Formatting and Tooltips

6. Advanced Visualizations & Custom Visuals

- Using Advanced Charts
- Designing Dashboards for Better Insights
- Using Bookmarks and Buttons for Navigation

7. Final Project

- Hands-on Project on Real-World Dataset
- Power BI Proficiency Test

AI Power Data Analytics

Gen AI

1. Introduction Gen AI

- Promt Engineering
- GenAI with Python Excel,MySQL,Power BI
- Real Project with Gen AI
- Importing Data and Data Refresh

GEN AI

2. Version Control

- Git
- GitHub
- BitBucket

3. AI Powered Job Search & LinkedIn Optimization

Career Opportunites in Data Analytics





Top Hiring Indusrtries in india for Data Analytics

Pharma & Healthcare.....9%
Retail & CPG.....16%
Ecommerce.....20%
Marketing & Advertising.....25%
Finance & Banking.....30%



From Hello World to Full Applications, My Coding Growth



Partnering for Your Growth

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