

Data Analytics Course Syllabus

<u>Introduction to Data Analytics</u>	<u>Excel (Basic to Advanced)</u>
<ul style="list-style-type: none"> • Data Analytics kya hota hai • Data Analyst vs Data Scientist • Types of data (Structured / Unstructured) • Data lifecycle • Industry use cases 	<ul style="list-style-type: none"> • Introduction to Microsoft Excel • Basic formulas (SUM, COUNT, AVERAGE) • Logical functions (IF, AND, OR) • Lookup functions (VLOOKUP, INDEX-MATCH) • Pivot Tables & Charts • Data cleaning in Excel • Dashboard creation
<u>SQL for Data Analysis</u>	<u>Python for Data Analysis</u>
<ul style="list-style-type: none"> • Introduction to SQL • SELECT queries & filtering • Joins (INNER, LEFT, RIGHT) • Aggregations (SUM, COUNT, AVG) • GROUP BY & HAVING • Subqueries • Real-world queries 	<ul style="list-style-type: none"> • Introduction to Python • Python basics (loops, functions) • Libraries: NumPy, Pandas • Data cleaning & preprocessing • Working with CSV/Excel files • Exploratory Data Analysis (EDA)
<u>Data Visualization</u>	<u>Power BI</u>
<ul style="list-style-type: none"> • Charts (Bar, Line, Pie, Histogram) • Dashboard design • Storytelling with data • Tools: Power BI, Tableau 	<ul style="list-style-type: none"> • Data import & Power Query • Data modeling & relationships • DAX basics (measures, calculated columns) • Interactive dashboards • Filters, slicers, drill-down • Report publishing & sharing
<u>Statistics for Data Analytics</u>	<u>Data Cleaning & Preprocessing</u>
<ul style="list-style-type: none"> • Mean, Median, Mode • Standard Deviation & Variance • Probability basics • Correlation • Basic Regression (concept) • Data distribution 	<ul style="list-style-type: none"> • Handling missing values • Removing duplicates • Data transformation • Outlier detection • Normalization

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NEXTGEN

Computer Institute

<u>Business Analytics</u>	<u>Machine Learning (Basic Level Only)</u>
<ul style="list-style-type: none"> ● KPI (Key Performance Indicators) ● Business dashboards ● Reporting techniques ● Data-driven decision making 	<ul style="list-style-type: none"> ● Introduction to Machine Learning ● Types of ML (Supervised / Unsupervised) ● Basic algorithms: <ul style="list-style-type: none"> ● Linear Regression ● Logistic Regression ● Decision Tree (basic idea) ● Model training & testing (basic concept) ● Overfitting & underfitting (basic understanding) ● Tools: scikit-learn
<u>Real-World Projects</u>	<u>Tools & Workflow</u>
<ul style="list-style-type: none"> ● Excel dashboard project ● SQL data analysis project ● Power BI dashboard ● Sales / customer analysis ● Basic ML mini project 	<ul style="list-style-type: none"> ● APIs basics ● Git & GitHub basics ● Project structuring ● Data collection methods
<u>Interview Preparation</u>	
<ul style="list-style-type: none"> ● Excel practical questions ● SQL queries practice ● Case studies ● Resume building ● Portfolio (GitHub projects) 	

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