

SM TECH ACADEMY (SEO MAGICS)

3-Month Data Analytics Course Syllabus

Month 1: Foundations of Data Analytics

Week 1: Introduction to Data Analytics

- What is Data Analytics?
- Types: Descriptive, Diagnostic, Predictive, Prescriptive
- Data Analytics workflow
- Real-life applications in industries

Week 2: Excel for Data Analytics

- Formulas, Functions (VLOOKUP, IF, INDEX/MATCH)
- Pivot Tables & Charts
- Data Cleaning
- Conditional Formatting

Week 3: Basics of Statistics

- Mean, Median, Mode, Range
- Variance & Standard Deviation
- Correlation vs Causation
- Probability basics

Week 4: Introduction to SQL

- What is a database?
- SELECT, WHERE, ORDER BY
- JOINS (INNER, LEFT, RIGHT)
- GROUP BY, HAVING

Month 2: Tools and Programming

Week 5: Python for Data Analytics - Basics

- Installing Jupyter Notebook/Google Colab
- Data types, Variables, Functions
- Lists, Dictionaries, Loops, Conditional Statements

Week 6: Python Libraries

- Pandas: Reading files, DataFrames, filtering, merging
- NumPy: Arrays, operations
- Matplotlib & Seaborn: Basic plotting & visualization

Week 7: Data Cleaning & Manipulation

- Handling missing data
- Removing duplicates
- Converting data types
- Renaming columns, filtering rows

Week 8: Project 1

- Analyze a dataset using Excel + Python
- Provide summary + visualizations

Month 3: Advanced Analytics & Visualization

Week 9: Data Visualization Tools

- Tableau or Power BI basics
- Creating Dashboards
- Filters, Maps, Charts
- Connecting to data sources

Week 10: Advanced Excel & SQL

- Excel: Power Query, Power Pivot
- SQL: Subqueries, CTEs, Window Functions

Week 11: Introduction to Machine Learning

- Supervised vs Unsupervised Learning
- Linear Regression using Python
- Clustering basics (K-Means)
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Week 12: Final Project

- End-to-end data analysis project:
- Clean data
- Analyze and visualize
- Present dashboard/report
- Tools used: Python + Tableau/Power BI + SQL

Tools You'll Learn:

- **Excel**
- **SQL (MySQL/PostgreSQL)**
- **Python (Pandas, NumPy, Seaborn)**
- **Tableau or Power BI**