COURSE SYLLABUS

Data Analysis Basic Course (Self-Paced)

Get a practical intro to turning raw data into useful insights. You'll cover data structures, quality, visualization, databases, and reporting, with hands-on Excel work in sorting, filtering, and PivotTables.

Group classes in Live Online and onsite training is available for this course. For more information, email corporate@nobledesktop.com or visit: https://www.nobledesktop.com/classes/data-analysis-basic-course-self-paced

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Course Outline

Module 1: Introduction to Data Analytics

- Understand the role of data analytics in modern organizations.
- Differentiate between data and information and recognize the importance of context.
- Identify how questions and data availability shape analytical approaches.

Module 2: Data Structures & Types

- Distinguish between structured and unstructured data.
- Understand tables, databases, rows, and columns.
- Recognize challenges in analyzing emails, images, PDFs, and other unstructured formats.

Module 3: Internal & External Data Sources

- Identify common internal systems (ERP, HR, POS, financial systems).
- Explore external data sources including government and partner data.
- Evaluate privacy, quality, and legal considerations when using external data.

Module 4: Transactional vs. Analytical Systems

- Compare transactional systems with data warehouses and data marts.
- Understand ETL (Extract-Transform-Load) concepts.
- Recognize how combining systems supports strategic decision-making.

Module 5: Data Quality & Governance

- Identify common data mismatches and transformation challenges.
- Understand data definitions, stewardship, and governance principles.
- Learn how poor governance can lead to operational failures.

Module 6: Data Privacy & Compliance

- Differentiate PII and PHI data types.

- Review major privacy regulations such as GDPR and CCPA.
- Apply best practices for handling sensitive data responsibly.

Module 7: Data Visualization

- Understand why visualization enhances learning and insight discovery.
- Differentiate between static and dynamic visualizations.
- Use visualization techniques to identify trends and outliers.

Module 8: Reporting & Analytics Tools

- Survey common tools such as Excel, Access, Tableau, and Power BI.
- Understand when to use visualization, statistical, or audit-specific tools.
- Recognize strengths and limitations of different analytics platforms.

Module 9: Excel for Data Analysis

- Apply sorting, filtering, and common math functions.
- Create pivot tables and pivot charts.
- Use Excel to answer basic business and audit questions.

Module 10: Analytical Techniques & Case Studies

- Perform stratification, duplicate detection, and normalization.
- Analyze vendor, employee, and transaction data.
- Apply techniques such as Benford's Law, sampling, and date comparisons.

Module 11: AI & Emerging Trends in Data

- Understand the growth of big data and AI-driven analytics.
- Compare search engines and AI chat systems.
- Apply AI best practices and prompt fundamentals responsibly.