

# Data Analysis Basic Course (Self-Paced)

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



[hello@nobledesktop.com](mailto:hello@nobledesktop.com) • (212) 226-4149

## 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.