



**Scandinavian Academy**  
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# Course: Data Analysis Fundamentals

Code	City	Hotel	Start	End	Price	Language - Hours
DAI-927	Chicago (US)	Hotel Meeting Room	2026-07-13	2026-07-17	7450 €	En - 25

## Overview

In today's data-driven world, merely collecting data is no longer sufficient. To make impactful decisions, professionals must learn how to refine raw data, structure it effectively, and extract meaningful insights. The Data Analysis Essentials course provides a strong foundation in data analytics by guiding participants through the complete data lifecycle — from data acquisition to actionable reporting.

This comprehensive 5-day course equips you with practical tools and techniques to handle large volumes of data and introduces industry-standard software such as Python, Pandas, Amazon S3, and Power BI. You will learn to work with structured and unstructured data, understand key analytical frameworks, and apply real-world ETL processes.

## Course Objectives

**By the end of the course, participants will be able to:**

- Understand the role and value of data in solving business challenges.
- Explain the five V's of big data: Volume, Velocity, Variety, Value, and Veracity.
- Identify different data types and structures, and describe where and how data is stored.
- Organize, clean, and manage datasets using tools such as Pandas and Python.
- Apply techniques for batch and stream data processing.
- Explore and utilize tools such as Amazon S3, Power BI, Tableau, and Excel Analysis ToolPak.



- Understand and implement the ETL (Extract, Transform, Load) process to maintain data integrity.
- Analyze data using descriptive, predictive, and prescriptive methods.
- Evaluate and select the most appropriate data analysis tools for specific business cases.

## Who Should Attend

This course is designed for professionals from various backgrounds seeking to build or strengthen their data analysis skills:

- Aspiring Data Analysts and Data Scientists
- IT Professionals aiming to develop data processing pipelines
- Business Analysts and Researchers working on data-intensive projects
- Project and Operations Managers requiring greater visibility and control over data
- Individuals considering a career transition into data analytics

## Course Outline

### Day 1: Introduction to Data Analysis in Business

- Understanding the importance of data in strategic decision-making
- Introduction to data analytics and key terminologies
- Challenges in today's data landscape
- Exploring the five V's of Big Data
- Overview of modern data storage approaches:
  - Amazon S3
  - Data Lakes

### Day 2: Data Discovery, Profiling, and Processing

- Identifying data sources, types, value, and quality



- Profiling data for relevance and usability
- Acquiring data from diverse platforms
- Introduction to Python and Pandas for data cleaning
- Concepts of batch vs. stream processing
- Managing structured, semi-structured, and unstructured data

### **Day 3: Data Organization and Transformation**

- Handling common data quality issues
- Creating clean, analysis-ready datasets
- Introduction to database consistency and integrity
- Introduction to **ETL procedures**
  - Extracting raw data
  - Transforming and formatting data
  - Loading into data systems
- Introduction to data manipulation and transformation tools

### **Day 4: Reporting and Business Intelligence (BI)**

- Fundamentals of data analysis and visualization
- Using Power BI, Tableau, and Python for BI tasks
- Applying analytics types:
  - Descriptive
  - Predictive
  - Prescriptive
- Advanced tools for analytics:
  - Microsoft Excel ToolPak
  - SPSS
- Criteria for tool selection based on business goals

### **Day 5: Ensuring Data Integrity and Best Practices**

- Understanding the importance of data veracity
- Techniques for ensuring data quality



- Exploring tools and best practices for data cleansing
- Implementing ETL pipelines in practice
- Case studies and lessons learned from real-world applications
- Final workshop and wrap-up



The Scandinavian Academy for Training and Development adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training and Development.

### **Program Timings:**

- 9:00 AM to 2:00 PM in Arab cities.
- 10:00 AM to 3:00 PM in European and Asian cities.

### **The program includes:**

- A daily Coffee Break provided during the sessions to ensure participants comfort.