Microsoft Certified Trainer
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EXIN Data Analytics Foundations

2 days

Data analytics has its roots in statistics and has become increasingly important with globalization and the growing volume of data. Companies are increasingly recognizing the value of using data to make informed business decisions, leading to the creation of roles such as data analyst, data scientist, and data engineer. Data analytics involves storing, cleaning, and transforming structured and unstructured data to derive insights. It is essential not only for technical specialists but also for business roles involved in report generation and data-driven decision-making. The EXIN Data Analytics Foundation certification equips professionals with foundational knowledge of data analytics concepts and visualization methods.

Course Objectives

At the end of the course, the participant will understand the the life cycle of data for the purpose of gaining business insights. This course covers the following topics:

- Turning data into insights
- Collecting, organizing, managing
- Cleaning
- Analyzing
- Visualizing

Target Audience

The **EXIN Data Analytics Foundation certification** is designed for **professionals aspiring to roles** where data analysis is a core responsibility, such as:

- data/information analysts
- business intelligence analysts
- data administrators/(business) information managers
- data/analytics managers
- data scientists

This certification is also a good starting point for **professionals involved in (business) operations** and **management** in any domain, who are

interested in the business benefits of data analysis and the techniques involved in it. These roles could include:

- (digital) marketing/media specialists
- marketing/market research analysts
- business unit/department managers
- business analysts
- finance professionals

Course Duration

2 days

Certification Exam

The certification exam can be taken online through an EXIN-accredited examination center.
EXIN is a global, independent certification institute for ICT professionals with over 30 years of experience, recognized as a leading and reliable authority in the IT market.

Course Program

Day 1 - Data Collection, Storage, Variables and Data Cleaning

Turning Data into Insights

- Key concepts in data analytics
  - Data as an asset
  - Diverse data collection sources (e.g., internal systems, IoT, social media)
  - Storage formats
  - Data compliance (fulfil legal and regulatory obligations regarding transparency in data collection and data ownership)
- Key elements of the process
  - Steps in the data analysis process cycle
  - Risks in data analytics: outliers, duplicates, missing values, security, compliance
- How Business Intelligence (BI) leads to business decisions.

Collecting, Organizing, Managing Data

- Data Collection

    - Internal Acquisition Systems
    - Data Procurement
    - Alternative Data Sources
    - Web Scraping
    - Open Data
    - Compliance in Data Collection
- Storing Data
    - Structured vs Unstructured Data
    - Big Data Management
    - Relational Database Management Systems (RDBMS)
    - Data Warehousing and Enterprise Data Warehouse (EDW)
    - Key-Value Stores
    - Distributed File Systems and Cloud Solutions.

Variables

- Independent and Dependent Variables
- Numeric, DateTime, Categorical, Boolean Variables
- Continuous vs Discrete Variables

Cleaning Data (Data Scrubbing)

- Variable Selection
- Merging Variables
- Transform categorical variables into a binary format (One-hot encoding)
- Split continuous data into intervals (Binning or discretization)
- Data Retention Strategies

Day 2 - Analysis, and Visualization

Methodology in Data Analytics

- Statistics:
    - Descriptive Analytics
    - Inferential Methods
- Data Mining
- Machine Learning (Supervised, Unsupervised, and Reinforcement Learning)
- Machine Learning vs Data Mining

Algorithms

- Overview of Algorithms
- Linear Regression, Non-linear Regression, and Logistic Regression
- Clustering Analysis:

    - Nearest Neighbors
    - k-Nearest Neighbors (k-NN)
    - k-Means Clustering
- Association analysis and sequence mining.

Visualizing Data

- Explanatory vs Exploratory Graphics
- Line Charts, Bar Charts, Histograms, and Pie Charts
- Scatterplots, Box Plots, Violin Plots
- Heatmaps and Pairplots
- Overview of Data Visualization Tools: Microsoft Power BI, Tableau, and Programming Languages

The Teacher

With years of experience in corporate training, I am well-versed in teaching advanced tools such as Power BI, Python and Tableau. Thanks to the practical and straightforward approach, course participants implement effective solutions right from the start.

Contact me for more information

Would you like to train yourself or your team in Power BI, Python, Tableau, or ChatGPT? Write to me for a free consultation or to receive more details on personalized courses.

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