informatech

DATA MANAGEMENT AND BUSINESS INTELLIGENCE | COURSE

Certificate in Data Science (CDS)

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Course content

Why Attend

The Certificate in Data Science course offers participants an in-depth understanding of Data Science best practices and provides a foundational overview of the Big Data ecosystem and Artificial Intelligence opportunities. It goes beyond analytics, encompassing all disciplines connected to modern data. By the end of the course, participants will gain expertise in advanced techniques and technologies, enabling them to extract valuable insights from data and collaborate effectively with professionals in advanced data management fields.

All analytical methods and solutions are elaborated with step-by-step case studies with practical, hands on experiences. An exhaustive documentation will cover analytical topics with an exclusive face-to-face comparison between SAS, SPSS, STATISTICA, Excel, R and Python.

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

• Understand and structure data for effective analysis

• Evaluate solutions for Data Analysis versus Machine Learning

• Distinguish between predictive models and pattern-detection models

• Make informed choices between proprietary and open-source technologies

• Map the modern data workflow from raw sources to finalized reports

• Oversee Data Science projects using project management best practices

This course is for specialists who aspire to become accustomed with data science components, and how they can be applied coordinately to solve data and business problems, as well as research issues. The course is specifically suited for managers and persons involved in marketing, CRM, research, manufacturing, quality control, app developers and IT analysts from almost any sector, such as banks, insurance companies, retail, governments, manufacturers, healthcare, telecom, transport and distributors.

• Business data analysis

• Data analytic validity

• Judging AI algorithms

• Evaluating IoT platforms

• Comparing big data results

Course content

Course outline

Data Analysis and Visualization

- Understanding data types and visualization techniques
- Assessing the representativeness of data
- Summarizing data using descriptive statistics
- Profiling multiple groups with statistical tests
- Creating advanced visualizations with smart charts
- Simple Linear Regression and Logistic Regression
- Identifying and addressing outliers

Machine Learning – Supervised

- Multiple Linear and Logistic Regression
- Discriminant Analysis: Functions and probabilistic models
- Decision Trees: CART, CHAID, and Random Forests
- Support Vector Machines and K-Nearest Neighbors
- Naïve Bayes
- Neural Networks, Deep Learning, and AI applications

Business Intelligence Forecasting – R vs. Python

- Fundamentals of Business Intelligence
- Data collection and database sources
- ETL processes (Extract, Transform, Load)
- Data storage: Warehouses, marts, and lakes
- Analytics tools: BI platforms, OLAP, dashboards, etc.

Course content

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- Forecasting methods and trend analysis
- Exponential smoothing (additive and multiplicative)
- Time Series Analysis and ARIMA models
- Comparison of R and Python in statistical tests and ML algorithms

Machine Learning: Unsupervised

- Principal Component Analysis (PCA)
- Clustering techniques: Hierarchical and K-Means
- Simple Correspondence Analysis
- Multidimensional Scaling
- Quadrant Analysis

Project Management for Data Scientists (PMP)

- Introduction to PMP for Data Science projects
- Managing integration, scope, and cost
- Handling time, quality, and communication
- Risk management, procurement, and stakeholder engagement

IoT and Big Data Ecosystem

- Essentials of IoT, M2M, and embedded systems
- Basic IoT communication protocols
- Big Data fundamentals: "Where" and "When"
- Distributed file systems with HDFS
- Comparing MapReduce and Spark for data sharing

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• Overview of the Big Data ecosystem: Spark, MongoDB, Cassandra, Flume, Cloudera, Oozie, and Mahout

Seminar dates

Available seminar dates

Live dates and pricing for Certificate in Data Science (CDS) generated from the course details page.

Date	Location	Format	Fee
8 - 12 June 2026	Frankfurt - Germany	Classroom	**€3,250.-**
6 - 10 July 2026	Barcelona - Spain	Classroom	**€3,850.-**
10 - 14 August 2026	Frankfurt - Germany	Classroom	**€3,250.-**
14 - 18 September 2026	Rome - Italy	Classroom	**€4,250.-**
5 - 9 October 2026	Kuala lumpur - Malaysia	Classroom	**€2,250.-**
16 - 20 November 2026	Barcelona - Spain	Classroom	**€3,850.-**
7 - 11 December 2026	London - U.K	Classroom	**€4,200.-**

Live online option	Online delivery is available at €1,850.-.