Advanced Data Science for Industry 4.0

COURSE OUTLINE

Catalogue Number	3301-0019
Category	Industry 4.0
Duration	15 Hours
Prerequisites	Level 1 and 2 Industry 4.0 Courses

Activity 1: Data Warehousing

Defining Data Warehousing

Implementing a Data Warehouse

Business Benefits of Data Warehousing

Data Warehousing Software

Activity 2: Data Mining

Data Mining and Big Data

Supervised and Unsupervised Learning

Data Mining Across Industries

Activity 3: KPIs of Big Data

Analytics vs KPIs

The Role of Big Data Analytics in KPIs and Beyond

Examples of Manufacturing KPIs

Identification and Selection of KPIs

The Role of Machine Learning in Identification and Selection of KPIs

Activity 4: One Metric That Matters

Selecting the Correct Metrics – Challenges

Defining One Metric That Matters (OMTM)

Lean Analytics

Advantages and Disadvantages of Adopting OMTM

Activity 5: Data Driven Innovation

Using Data to Spark Innovation

Analytic Capabilities and Data Driven Innovation (DDI)

The Added Value of DDI

Examples of DDI in Industry

Activity 6: AI, Machine Learning, and Deep Learning

Decision Management Technologies

AI and Machine Learning Platforms

Manufacturing Analytics Best Practices

Neural Networks and Deep Learning

Examples in Manufacturing and Finance

Activity 7: Data Analysis Exercise 1

Managing process inventory in a digital copying machine production factory.

Activity 8: Data Analysis Exercise 2

Customer service management in a company with declining customer satisfaction.

Activity 9: Data Analysis Exercise 3

Improving quality control in an automotive parts manufacturing company.