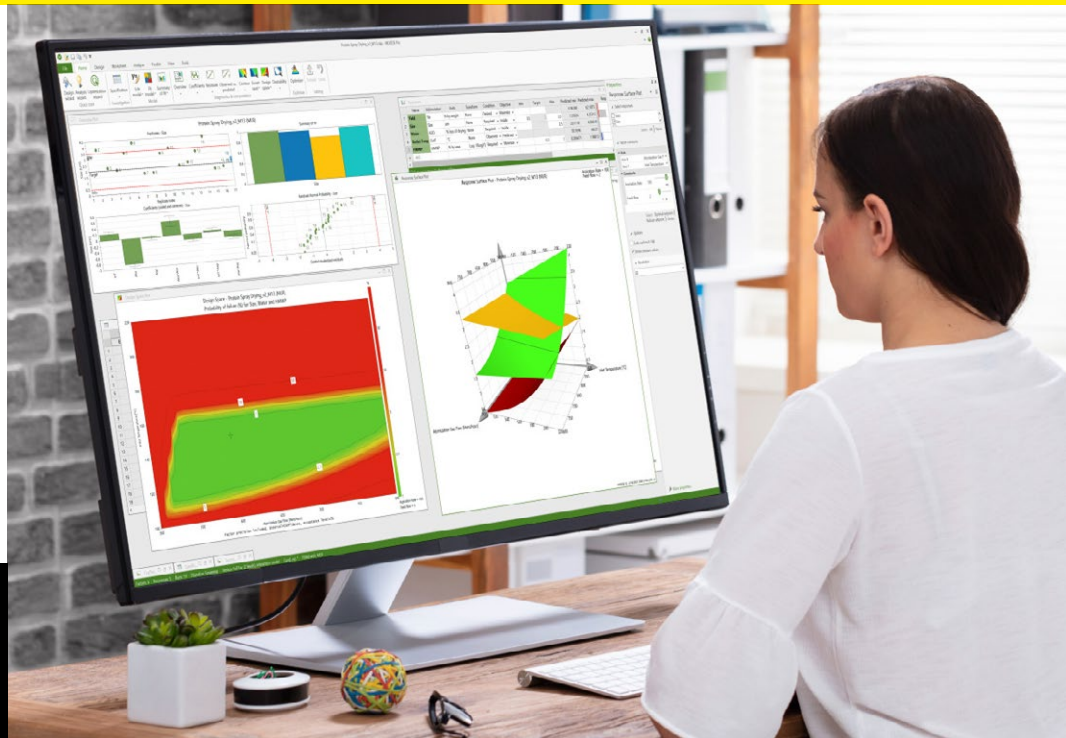
SARTORIUS

Data Science Skills to Improve Your Bioprocess: Level 1 Basic Training on Design of Experiment (DOE) and Multivariate Data Analysis (MVDA)

This Level 1 course focuses on Design of Experiments (DOE) and Multivariate Data Analysis (MVDA). DOE is a cost-effective method for optimizing processes and improving product quality by assessing critical parameters with minimal resources. It covers screening, system characterization, optimization, and robustness testing, using MODDE® for demonstrations. MVDA helps separate signal from noise in complex datasets, used across various industries. The course teaches interpreting complex data, building predictive models, and visualizing results with SIMCA®. It addresses data overview, clustering, classification, predictive modeling, and multi-block analysis, aiming to convert complex data into interpretable models and plots.

Key Benefits of the Course

- Statistical modeling for non-data scientists
- Hands on learning with powerful solutions for modeling and optimizing development and manufacturing
- Quickly spot key trends, clusters, and "hidden gems" in the data
- Certificate on completion



eLearning

Course Objective

The DOE part covers creating efficient experimental designs, analyzing data with statistical principles, using graphical tools for understanding, communicating results graphically, employing optimization tools, understanding limitations in constrained situations, and designing follow-up experiments to enhance a DOE protocol.

The MVDA part of the course teaches importing and contextualizing data, organizing and visualizing it, and understanding PCA, PLS, and OPLS methods. It covers performing MVDA modeling, using statistics for model assurance, interpreting model parameters, and creating models for real-time process monitoring.

Who Should Participate?

Intended for researchers, scientists and engineers from all sectors of industry and academia. Typical applications include product development, process improvement, optimization, validation and quality control. No prior knowledge of statistics is assumed.

Selected Course Content

- Understanding the DOE concept
- Data modeling and diagnostics
- Create a solid base for decisions
- Organization, visualization and treatment of different types of data
- Import and contextualize; Organize, visualize, and pre-treat different types of data
- Understand the basic principles of the PCA, PLS, and OPLS methods
- Model interpretation

Language Information

The Level 1 eLearning courses are given in English.

Schedule

A self-paced, on-demand online training for both courses is available for a period of 3 months from the time of activation.

Course Material and Software

The course material will be provided within the training platform. Included with the eLearning course sign-up are training licenses of SIMCA® for MVDA, and MODDE® for DOE, and the software and licenses will be provided shortly after sign-up. Each participant will need to ensure that they have the software installed on their own computer and activated before starting the relevant training. Each course ends with a Final Test. This test can be taken multiple times. A course certificate for each course is awarded after passing the test.

Preparation

If you have any questions, please do not hesitate to contact your local sales representative.

Order Information

Article Number	Description	Price
UT-OC-2495	Digital Solution basic eLearning	500,00 €

Please contact your local sales representative to receive a quote.

Germany
Sartorius Stedim Biotech GmbH
August-Spindler-Strasse 11
37079 Goettingen
Phone +49 551 308 0

USA
Sartorius Stedim North America Inc.
565 Johnson Avenue
Bohemia, NY 11716
Toll-Free +1 800 368 7178

For more information, visit
sartorius.com

Specifications subject to change without notice.
©2025 Sartorius Stedim Biotech GmbH, August-Spindler-Strasse 11, 37079 Goettingen, Germany

Status: 04 | 2025