



We Invite You to a Course in

Design of Experiments, General

Scientific investigations involve changing a number of controlled variables to direct the response in question towards a desired level. Design of Experiments (DOE) is a rational and cost-effective approach to practical experimentation that allows the effect of variables to be assessed using only the minimum of resources. The course is composed of lectures, demonstrations and computer exercises in software MODDE® based on real life investigations.

COURSE INFORMATION

Course length: 3 days

Location: France, Lyon

Start date: 2011-03-22

Price: 1200 EUR

Contact: umetrics.academy@umetrics.com

Please visit www.umetrics.com/training for more information and registration.

No prior knowledge of statistics is required, knowledge about in-house data base structure is beneficial.

COURSE OBJECTIVE

On completion, participants will know how to:

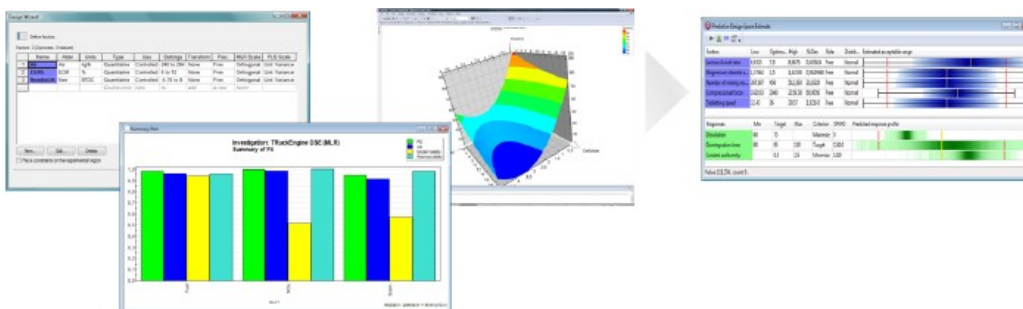
- Create efficient experimental designs to match the objectives.
- Analyze experimental data using sound statistical principles.
- Improve and optimize products and processes.
- Interpret the results to increase understanding.
- Make a risk estimate of the decided settings.
- Report results in a simple graphical format.

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
- Finding the optimal setting
- Quality estimates and robustness evaluation



Design of Experiments (DOE) is the most effective method to achieve product and process efficiency and optimization. MODDE is a state-of-the-art design of experiments software package that is used by scientists, engineers, and statisticians alike to help understand complex processes and products.

SCHEDULE

1st day

Focus on how and when should Design of Experiments be used?

- Problem formulation
- Selection of goals, factors, responses, type of model and design
- Properties and analysis of Full factorial designs
- Evaluation of raw data
- Regression analysis and model interpretation

Exercises followed by discussion

2nd day

Focus on screening and optimization

- Screening designs, which factors dominate and what are their optimal ranges
- What to do after screening, optimization or modification of the design
- Optimization designs, how do we find an optimum?

Exercises followed by discussion

3rd day

Focus on robustness testing

- Verification that the method or process is robust within given specifications
- Exercises using participants' or Umetrics' examples/data
- Discussion regarding participants' own data including the generation of new designs

Course summary

Design of Experiments is a powerful tool used in research, development and production in diverse industries ranging from pharma and biotech to car and steel industry. For more information on how MODDE can help you gain value from data, look into [Application Areas](#).

COST AND CONDITIONS

ATTENTION - AT SOME COURSE LOCATIONS ARE OWN LAPTOP REQUIRED FOR EXERCISES. PROGRAM INSTALLATION INSTRUCTIONS WILL BE SENT OUT WITH THE FINAL COURSE INFORMATION.
[Click here to see what applies to your course](#)

Early bird registration: if you book at least 2 months prior to course date the DISCOUNT is 17%. Also if you are more than three participants from one company booking the same course date you will receive an 8% DISCOUNT/person.

Course fee (+ VAT) includes coffee, lunch and course documentation. An invoice will be sent and payment is required within 30 days of the invoice date. Course application is binding. Cancellations registered later than two weeks before the course start will not be refunded. Provided that Umetrics AB is notified, the registering company may substitute its participant(s). If the customer cancels prior to 14 days of the course, 10% of the class fee will be applied to cover processing costs. The balance of class fees already paid to Umetrics may be credited towards a future course. The registering company may substitute its participant(s) provided that Umetrics is notified.

Umetrics holds courses based on a sufficient number of registrants. Therefore, Umetrics reserves the right to cancel the course 14 days prior to the course start date if the number of registrants is too low. Full refund will be made to these registrants. Alternately a 10% refund will be made to any registrant(s) enrolling in the next available course.

To register, please use the button "Begin registration" in this window frame, or send an email to [Umetrics Academy](mailto:info.se@umetrics.com).



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