Deep within your data lie all the answers. However, the amount of generated data can be quite overwhelming, and it can be challenging to find these answers. This course provides you with the necessary knowledge base and skills to tackle data analysis issues and gain a competitive advantage. We will give you the practical tools to make use of all the data that you gather in your production, raw material handling, quality control, etc.

You will learn to see (more) data as an opportunity and an advantage rather than being afraid of having too much information or worried about not analyzing the data correctly. We will show you that data analysis is simple and powerful and something that can easily be combined with all the background information you have in your production, for raw materials and in quality control.

**WHAT YOU WILL LEARN**

On this course, you will learn how to analyze large amounts of data. This is useful for tackling complex problems such as:

- understanding and optimizing a fermentation process
- predicting the shelf life of a food item
- understanding the relationship between the many variables influencing the treatment of a patient
- finding raw materials that are off spec
- quantifying the ingredients in a competitor’s product
- identifying differences between the same products produced at different sites

The course will teach you the basic tools needed for handling such problems and give you the necessary hands-on experience to apply the methods to your own data in order to respond to the specific challenges your organization faces.

**COURSE CONTENT**

As a participant you will be introduced to the multivariate data analytical way of thinking and learn to explore your data properly. The course offers a mixture of lectures and practical exercises. In the exercises, participants will be introduced to various software tools.

“Very educational. Teachers are very passionate and knowledgeable”

Former participant on a Copenhagen Summer University course
Core elements

- Understanding that multivariate data is inherently richer when looked at as a whole. We will demonstrate in very concrete terms that the whole is much more than the sum of the parts
- Understanding the meaning of multivariate fingerprints and profiles
- Performing multivariate analyses using tools like principal component analysis, multivariate regression, nonlinear modeling, classification and clustering
- Refining models using outlier detection, variable selection and advanced data preprocessing
- Using the mathematical tools for performing multivariate statistical process monitoring, calibration, data exploration and optimization
- Maintaining and using models in production environments

PARTICIPANTS

The course is intended for people handling problems involving large amounts of data. Examples include production monitoring and optimization, research and development, and quality control.

No prior experience with mathematics and statistics is needed.

COURSE DATE

5 days, August 20 – 24, 2018, 9:00 – 16:30 at the University of Copenhagen, Søndre Campus.

COURSE DIRECTORS

Rasmus Bro, Professor, Department of Food Science, University of Copenhagen

Thomas Skov, Associate Professor, Department of Food Science, University of Copenhagen

COURSE FEE

EUR 2,680 / DKK 19,900 excl. Danish VAT. Fee includes teaching, course materials, and all meals during the course.

OTHER RELATED COURSES:

13 - 17 August 2018, University of Copenhagen
Big Data analysis - tools and methods

20 - 24 August 2018, University of Copenhagen
Data Science with R

FOR MORE INFORMATION, SEE:
copenhagensummeruniversity.ku.dk