

CHALMERS

A Chalmers Tracks course on

Statistical Engineering Practices for industrial development

Key for understanding variation in product and process development

The industry today puts a lot of effort into the development of robustness and sustainability of product and processes without raising cost. This is a multi-disciplinary and cross functional challenge that requires **professional skills**; how to understand, quantify and communicate the influence of variation on product and/or process performance in the complex organizational engineering context.

How can the joint understanding of challenges and opportunities effectively be increased?

The purpose with this course is to develop professional skills of several concepts, procedures that bridge basic statistics with applied industrial development of products and processes. After the course the engineers are equipped with a larger professional toolbox and are prepared to approach typical development challenges within any industrial branch (or healthcare) such as:

- Wrong data for the right problem
- Low data quality – that hide signals in noise
- Low process capability
- Limited experimental budgets
- Conflicting objectives and correlated parameters

In order to develop skills to navigate and handle such challenges this course addresses the following themes through workshops and practical applications:

- Statistical thinking in problem definition and solving
- Exploratory data analysis, graphical analysis of data
- Quality methods
- Fact-based Decision making
- Correlation and Regression
- Design of experiments
- Predictive modelling and optimization
- Text mining!

Teaching platform

- Selected theory from books and journals and statistical platform JMP Pro (www.jmp.com)

Requirements

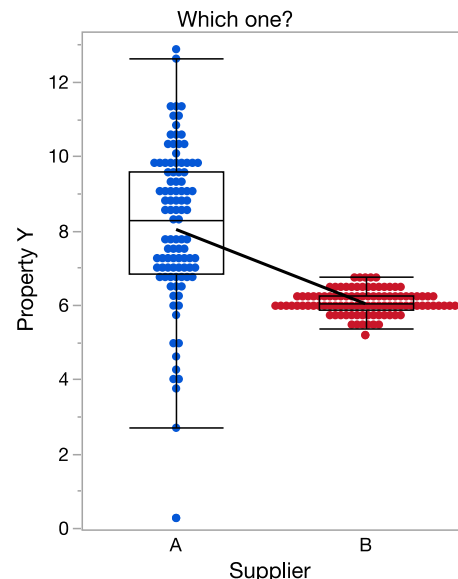
- Any student and Chalmers alumni that passed basic courses in mathematical statistics on bachelor level can apply.

How to apply

- Please send motivation letter (<400 words) of your interest in and practical experience (or need) of statistical engineering and transcript of your Chalmers courses to Peter Hammersberg (peter.hammersberg@chalmers.se).
- Student will be admitted based on the selection criteria mentioned above (max. 30 students).

Details:

- Course number: TRA105
- Number of credits: 7,5
- Application deadline: March 8, 2021
- Study period: Mar-June 2021 (Study period 4)
- Grading: Continuous examination (quiz-based), hand-ins and projects (5, 4, 3, F)
- Examiner: Peter Hammersberg, Ph.D, Senior Lecturer, Six Sigma Master Black Belt.



Welcome!