Process Characterization with Design of Experiments

Course description

This course offers a complete immersion in the Design of Experiments (DOE) methodology for process characterization. Participants will explore the fundamentals of PCC, associated terminology and distributions related to process variability. Through data collection and analysis, they will be introduced to good experimental practices and advanced DOE techniques, applying them to specific practices. The final section focuses on the evaluation of process stability and capability, culminating in the creation of robust final reports.

At the end of the course you will able to:

- Understand the fundamental concepts of process characterization.
- Apply the Design of Experiments (DOE) methodology effectively.
- Use 2-factor ANOVA, fractional experiments and DOE Center Points.
- Evaluate the stability and capability of a process.
- Create detailed and accurate reports on process characterization studies.
- Apply the knowledge gained in continuous process improvement and informed decision making.

Main topics

1 Introduction to process characterization
- What is PCC?
- What are PCC studies for?
- Terminology
- Plan for PCC

2 Data collection and analysis
- Setting objectives
- Introduction to DOE
- 2nd factorial
- Fractional
- Blocking and confounding
- DOE center point
- Response surface
- DOE practice (2 experiments)

3 Final conclusions and reports
- Evaluation of process stability
- Process capability assessment
- Final report

Course features

Instructor Led

Duration: 24 hours

Tools and templates

Simulated learning

Course certification

Contact

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