UNIVERSITY OF BORÅS

Statistical Quality Control

Statistical Quality Control/Statistisk kvalitetsstyrning

7.5 credits

Ladok Code: 41T05A
Version: 1.0
Established by: Board of the department 2010-06-03
Valid from: Autumn 2010

Education Cycle: First cycle
Main Field of Study (Progressive Specialisation): Production and Quality Control Technology (G1F)
Disciplinary Domain: Technology
Prerequisites:
Subject Area: Industrial Engineering and Management
Grading Scale: ECTS-credits

Content

The course contents are:

- descriptive statistics
- hypothesis testing
- gauge reporducibility and repeatability (gauge R&R)
- process and machine capability
- process management
- statistical tolerancing
- concept of variation
- cintinuous and discrete distributions
- SPC
- quality management- and quality control tools

Learning Outcomes

The student shall upon completion of the course be able to:

- design, conduct and analyse statistical process control (SPS) for continuously and discretely distributed variables, as well as multivariate SPC
- design, conduct and analyse process- and machine capability studies
- explain the concept of variation
- conduct statistical tolerancing
- design, conduct and analyse gauge R&R studies
- map, design and perform process management
- use the seven quality management- and quality control tools

Forms of Teaching

Instruction takes place in the following modes:

- lectures
- exercise sessions
- practicals
- project work
- homework

Forms of Examination

The course will be examined through the following examination elements:

Written examination and assignments
Learning outcomes:
Credits: 7.5
Gradingscale: ECTS-credits

Student rights and obligations at examination are in accordance with guidelines and rules for the University of Borås.

Literature and Other Teaching Materials

Literature

Douglas C. Montgomery: Introduction to Statistical Quality Control, 6th Edition, Wiley

MINITAB

Student Influence and Evaluation

The head of department and the course coordinator are responsible for a continuous and systematic collection of students´views. The evaluation report is presented for the students and will be the basis for the future design of the course.

Miscellaneous