



MG2202 Quality Control, extended course 9.0 credits

Kvalitet, större kurs

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for MG2202 valid from Spring 2020

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After passing the course, the student should be able to:

- explain and reflect on the basic principles of statistics and solve simple statistics problems
- explain and reflect on the basic principles of quality technique and quality control systems
- based on the basic principles solve simple quality related technical problems.
- by means of quality control tools formulate and solve questions related to quality control systems
- solve advanced quality related technical problems
- evaluate complex questions related to quality control systems and present a reasonable analysis

Course contents

- Statistics for engineers
- Experimental design
- Quality concepts and quality principles
- Quality costs
- Quality and customer experience
- Leadership and human resource development for quality
- Quality strategies
- Quality standards and tools
- Reliability technology
- Statistical process control and capability

Disposition

The course provides knowledge in both classical and modern quality tools, techniques and management philosophies to enable engineers/managers to transform an organization to become effective.

Specific prerequisites

MG1016/MG1026 Manufacturing Technology, MG1024 Production or the equivalent, and English B

Course literature

Recommended course literature:

1. Managing Quality (2007), Barrie G. Dale, Ton van Der Wiele and Jos van Iwaarden, Fifth edition, ISBN-9781405142793. Can be downloaded as e-book from KTHB.
2. ISO 9001:2008 for Small Businesses, Ray Tricker, 4th Edition. Can be downloaded as e-book from KTHB.

3. Quality from Customer Needs to Customer Satisfaction (2004), Bo Bergman and Bengt Klefsjö, Studentlitteratur, ISBN10:9144041667, ISBN13:9789144041667

4. Miller and Freund's Probability and Statistics for Engineers (Paperback), 2008 Johnson, Richard A., (ISBN 0321694988)

Examination

- INL2 - Assignments, 3.0 credits, grading scale: P, F
- INL3 - Assignments, 2.0 credits, grading scale: P, F
- TEN2 - Written exam, 4.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.