



## COURSE SYLLABUS

# Quality Management and Engineering, 7.5 credits

*Kvalitetsstyrning och teknik, 7,5 högskolepoäng*

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<b>Course Code:</b> TKYK19	<b>Education Cycle:</b> First-cycle level
<b>Confirmed by:</b> Dean Dec 4, 2018	<b>Disciplinary domain:</b> Technology
<b>Revised by:</b> Director of Education Jun 28, 2022	<b>Subject group:</b> IE1
<b>Valid From:</b> Aug 1, 2022	<b>Specialised in:</b> G1F
<b>Version:</b> 2	<b>Main field of study:</b> Industrial Engineering and Management

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### Intended Learning Outcomes (ILO)

After a successful course, the student shall

Knowledge and understanding

- show familiarity with the fundamental quality management principles, practices and tools - display knowledge of how to manage and improve operations using quality management methodologies and tools
- demonstrate comprehension of procedures and requirements of quality management systems and the support to sustainability

Skills and abilities

- demonstrating skills of planning and conducting improvement projects using process mapping, quality improvement tools, statistical process control, design of experiments and customer-focused product development
- demonstrating the ability to collect, assess and analyze process information in order to systematically identify and solve quality related problems within industry and service

Judgement and approach

- demonstrating the ability to critically assess and discuss how quality management and engineering can contribute to industrial development through improvement of products and processes
- demonstrating the ability to critically assess and discuss the importance of quality applications to improve operations and support sustainability

### Contents

The Quality Management (QM) and Engineering course provides knowledge and understanding to acquire business operational excellence through sound and practical Quality Management implementation.

The course includes the following elements:

- QM principles - cornerstones of Total Quality Management
- QM Practices
- QM Tools - problem solving approaches
- Design for Quality
- Production for Quality
- QM for sustainable development

### **Type of instruction**

In order to encourage active learning and participation of students, the course is designed to include assignments connected to industry examples. The teaching consists of lectures, where theoretical perspectives are presented; seminars for discussion of cases; workshops for opportunities to apply central methods; and regular supervision to support the assignments.

The teaching is conducted in English.

### **Prerequisites**

General entry requirements and completed course Leadership and Project Management, 7,5 credits (or the equivalent).

### **Examination and grades**

The course is graded 5,4,3 or Fail.

The course is examined through the group and individual assignments, and written examination. In order to pass the course the student needs to be approved on all three parts: group and individual assignments, and a written examination. The results from the examination are weighed together to form the final grade.

Registration of examination:

Name of the Test	Value	Grading
Written examination	3 credits	5/4/3/U
Assignments	4.5 credits	U/G

### **Course literature**

The literature list for the course will be provided 8 weeks before the course starts.

Title: Quality From Customer Needs to Customer Satisfaction

Author: Bo Bergman and Bengt Klefsjö

Publisher: Studentlitteratur, 2010