

COURSE SYLLABUS

Quality Management and Engineering, 7.5 credits

Kvalitetsstyrning och teknik, 7.5 högskolepoäng

Course Code:	TKYK16	Education Cycle:	First-cycle level
Confirmed:	Feb 18, 2025	Disciplinary domain:	Technology
Valid From:	Aug 31, 2026	Subject group:	Industrial Engineering and Management
		Specialised in:	G1F First cycle, has less than 60 credits in first-cycle course/s as entry requirements
		Main field of study:	Industrial Engineering and Management

Intended Learning Outcomes (ILO)

On completion of the 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

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

Judgment and approach

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

Content

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.

Language of instruction is in English.

Entry requirements

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

Examination and grades

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

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
Examination	3 credits	5/4/3/U
Assignment	4.5 credits	G/U

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.

Title: Quality From Customer Needs to Customer Satisfaction

Author: Bo Bergman and Bengt Klefsjö

Publisher: Studentlitteratur, 2010