



T-807-QUAL

QUALITY MANAGEMENT

6 ECTS

Year of study:	First or second year MSc.
Semester:	Fall.
Level of course:	5. Second cycle, intermediate.
Type of course:	Elective. <i>Recommended elective for MSc Engineering Management.</i>
Prerequisites:	It is assumed that students have at least minimum background in statistics. It is also important that students have finished an undergraduate degree or have considerable experience in management.
Schedule:	Runs for 3 weeks - 4 teaching hours a day.
Supervisor:	Helgi Þór Ingason.
Lecturer:	Helgi Þór Ingason and external lecturers.

Learning outcome: Students who conclude this course can:

- Explain the nature and meaning of quality management as a scientific discipline, explain its history and main concepts and argue for its utility and limits in the management of organizations.
- Explain the connection between quality management and popular ideas/methods/concepts such as lean and 6 sigma.
- Use the practices of continuous improvement, processes, tools and techniques, in the analysis and solving of real problems, put forward suggestions for problem solving and explain them verbally and in written text.
- Assess the capability of processes and present simple SPC charts.
- Explain the nature and structure of ISO9001.
- Assess the status of an organization in context with ISO9001, designed a very simplified version of a quality manual and deliver professional output verbally and in written text.

Content: The course covers the quality management as a management science and its important sub disciplines such as lean and 6 sigma. Among the subjects of the course are the quality concept, clients, quality culture, suppliers, and quality cost. Management systems, improvement, management standards, quality system design, certification and audits. Statistical quality control, use of SPC and process capability.

Reading material: Helgi Þór Ingason, *Gæðastjórnun*, Forlagið 2015 (*available in Icelandic or English*).

Teaching and learning activities: To be announced.

Assessment methods: Project A (30%). A group project in continuous improvement, to be explained more specifically. Groups suggest problems to solve. The assessment will be based on e.g. written report, data, and the success of the group in dealing with the problem. The written report will be 10 pages. Project B (30%). Based in ISO9001. An assessment of a real company. The groups deliver a report and present it. The assessment will be based on the understanding of ISO9001 and the context with the situation of the organization. Final exam (40%) will be based on all the compendium.

Language of instruction: English.

All course descriptions may be subject to change. Revised information on the course schedule, reading material, teaching and learning activities, and assessment methods will be introduced in the learning management system Canvas at the beginning of the semester.