



## **MSc in Industrial Engineering - Quality and Environmental Management** **Magisterutbildning i industriell ekonomi - kvalitet och miljö**

60 credits

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**Ladok Code:** KMAEK

**Version:** 3.1

**Level:** Second cycle

**Approved by:** Board of the department 2010-04-09

**Valid from:** Autumn 2010

**Valid for:**

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### **General Objectives**

Second level education shall essentially build on the knowledge that students acquire in first level education or corresponding knowledge. Second level education shall involve a deepening of knowledge, skills and abilities relative to first level education and, in addition to what applies to first level education, shall

- further develop the students' ability to independently integrate and use knowledge,
- develop the students' ability to deal with complex phenomena, issues and situations, and
- develop the students' potential for professional activities that demand considerable independence or for research and development work.

(The Higher Education Act, Chapter 1, Section 9)

### **Objectives**

Objectives: Upon graduation, the student is expected to be able to:

- demonstrate an overview of the subject industrial economy and in-depth knowledge in quality and environmental management.
- account for the main traits of current research and development work in quality and environmental management
- in a scientific and efficient manner use methods in the field for analysis, improvement work and implementation of quality systems and environmental systems in the private as well the public industry and service sectors
- identify and formulate problems using the processes that make up an organisation's existing quality and/or environmental system, and plan and implement solutions to these problems
- orally and in writing account for one's analyses and implementation plans in a way that is understandable to the people concerned
- demonstrate awareness of ethical aspects at the creation and use of knowledge
- decide when and if further scientific analysis and scientific studies increase the possibility of meritoriously solving a given problem in the subject

### **Content**

To remain successful, companies have to integrate quality thinking and environmental awareness in their business creating processes. The need for people with the special skills it takes to bring that integration about is therefore great and rising. This one-year Master programme concentrates on quality and environmental management with belonging philosophy, tools and methods. The knowledge is useful in all types of technical operations, and also in service production. The student will understand how quality thinking and awareness about environmental aspects are implemented in many of the leading companies, who avoid compromising with environmental consequences and the well-being of their customers. The student will also understand how these companies have come to grow.

Courses comprise 7.5 ECTS credits unless otherwise stated.

- Quality and Environmental Management
- Integrated Management Systems in Practice
- Advanced Statistical Process Control
- Theory of Knowledge and Scientific Method

- Quality Management Tools
- Environmental Risk Management
- Thesis Work, 15 ECTS

### **Admission Requirements**

Degree of Bachelor of Science of Engineering, comprising a minimum of 180 credits, or equivalent.

Verified knowledge of English corresponding to the course *English B* in the Swedish Upper Secondary School *or* a Bachelor Degree from a university in Sweden, Denmark, Norway, Finland or Iceland.

For further information about English language proficiency, please view: <http://www.hb.se/wps/portal/engtest>

### **Degree**

Degree of Master of Science (One Year) with a major in Industrial Engineering - specialisation Quality and Environmental Management.

Degree certificates are issued upon application in Ladok for students. More information is available at [www.hb.se](http://www.hb.se).

### **Student Influence and Evaluation**

All courses in the educational programme are evaluated (see the university policy for evaluation). The head of the programme is responsible for regularly and systematically collecting the students' opinions on the education. The head of the programme is also, along with the prefect, responsible for an annual evaluation of the educational programme. The evaluation is carried out in cooperation with teachers from the educational programme, students and representatives of the professions. Evaluations are documented in writing and brought back to the students.

### **Miscellaneous**

Study language: English

The language of instruction is English.