



# ME1314 Introduction to Industrial Engineering and Management 9.0 credits

Introduktion till industriell ekonomi

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 ME1314 valid from Autumn 2018

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Language of instruction

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

# Intended learning outcomes

Knowledge and understanding- On completion of the course, the student should be able to:

- Give an overview of the subject Industrial engineering and management and its development.
- Explain and apply basic terminology in Industrial engineering and management
- Explain how the business activities and management work in an industrial company, e.g. leadership, organisation, development, calculation and accounting.
- Establish, use, interpret and explain calculations as decision-making bases in different situations in an industrial company.
- Establish and explain how economic accounting is carried out and used in industrial companies, and interpret and use economic data from the accounting system.
- Explain and discuss basic aspects on sustainable development in some different fields.
- Explain and discuss sustainable business development and how this is related to other aspects on sustainable development.

Skills and abilities- On completion of the course, the student should be able to:

- Account for and discuss typical roles and tasks in different sectors for a Master of Engineering in Industrial engineering and management.
- Prepare written reports, create presentation materials and give oral presentations.
- Search and evaluate relevance of information.
- Work in projects and in groups in an efficient way.

Values and approaches- On completion of the course, the student should be able to:

- Reflect and discuss the themes that are treated in the so-called "programme integrating components" that are included in the course (see below).

## Course contents

The course "Introduction to Industrial Engineering and Management" is the first in a series of programme-specific courses in the engineering programme of Industrial Engineering and Management. KTH's engineering education in Industrial Engineering and Management places strong emphasis on the interplay between technical problem-solving and business context. A central idea behind this first course, as well as in the whole education programme, is that the student should be trained in solving engineering problems for organisational development in technology-based companies and organisations.

The major aim with the course is to give a general orientation about and a perspective on the subject of Industrial Engineering and Management, as well as to create interest in and understanding of the continued studies in the programme. The course thus prepares the student for a professional career as an engineer of Industrial Engineering and Management.

The course gives basic knowledge of Industrial Engineering and Management. A part of the course is dealing with methods and tools for calculation, accounting and financing in industrial companies. In addition to lectures and calculation exercises, it includes work with complex case studies and activities aiming at creating a better understanding of how

accounting, calculation and market strategies are connected. Another part of the course focuses on the activities of the industrial company, and contains lectures and study visits. A third part focuses on sustainable business development and consists of lectures, study visits and written assignments.

The course contains also three so-called "programme integrating components", i.e. components that give training in different engineering and study skills. These components include e.g. sustainable development, knowledge of the professional life that an I-engineer will encounter after graduating, ethical issues in the engineering role, and development of a critical approach to academic studies and responsibility for one's own learning.

## Specific prerequisites

General entry requirements for higher education.

## Course literature

Modern industriell ekonomi (Engwall et. al., Studentlitteratur 2017).

Additional reading and course material will be specified at the start of the course.

## Examination

- INL1 - Assignments, 2.0 credits, grading scale: P, F
- KON1 - Partial exams, 1.0 credits, grading scale: P, F
- PRO4 - Project, 0.5 credits, grading scale: P, F
- PRO5 - Project, 1.5 credits, grading scale: P, F
- SIM1 - Business simulation, 0.5 credits, grading scale: P, F
- STU1 - Study visit, 1.0 credits, grading scale: P, F
- TEN1 - Exam, 2.5 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.

