



# 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

The head of ITM school determined on 30/03/2023 to establish this official course syllabus to apply from autumn term 2023 (registration number M-2023-0689).

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

General entry requirements for higher education.

# Language of instruction

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

## Intended learning outcomes

On completion of the course, the student will be able to:

1. Within the fields of (1) costing and accounting and (2) financial analysis and corporate finance, with a focus on the industrial firm:
  - Describe, explain, and apply relevant concepts and models from the subject Industrial management
  - Perform and interpret calculations as basis for financial decisions
  - Describe how financial data are recorded, presented, and interpreted
  - Describe how the industrial firm's operations are financed and how financial planning is carried out
2. Describe, explain, and apply relevant concepts and models of industrial value creation and describe, analyze, and explain how the operations in an industrial firm can be interpreted, organized, and managed
3. Explain and discuss sustainable business development and how it relates to other aspects of sustainable development
4. Write reports, create presentation materials, and hold oral presentations as well as work in teams in an efficient manner
5. Reflect on and discuss themes relevant for the role of the professional engineer.

## 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 also provides the opportunity to reflect on and practice various engineering skills that will be useful in future studies as well as in future projects and professional practice.

## Examination

- INL2 - Assignments, 1.5 credits, grading scale: P, F
- KON2 - Partial exams, 1.0 credits, grading scale: A, B, C, D, E, FX, 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
- TEN2 - Exam, 3.0 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.