



ME1041 Industrial Management for Chemistry and Biotechnology 4.5 credits

Industriell ekonomi för kemi- och bioteknik

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

The official course syllabus is valid from the autumn semester 2024 in accordance with the decision from the Director of First and Second Cycle Education:M-2022-1492 Decision date: 15/03/2024

Grading scale

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

Education cycle

First cycle

Main field of study

Industrial Management

Specific prerequisites

General entry requirements.

Language of instruction

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

Intended learning outcomes

Engineering work is about more than technology. As an engineer, to be able to participate in technology-based businesses, to carry out projects, to develop activities, as well as to lead teams and co-workers in companies of today, good knowledge of industrial management is required. In practice, the success often relies on understanding both the technical and the economic aspects of decisions. This course gives you basic knowledge in industrial management.

Concretely, this implies that you on completion of the course should be able to:

1. Describe and explain different technology-based business models and the dynamics of value creation, value proposition and value capture in industrial enterprises
2. Describe and explain how industrial operations are led and organised
3. Select, use and interpret economic calculations as a basis for decision-making in different business situations
4. use the basic concepts and the principles of bookkeeping and accounting, and describe and explain how the activities of an industrial enterprise can be financed
5. compile and analyse financial reports for an industrial enterprise

Course contents

The course focuses on basic concepts and models to understand and handle economic, organisational and management issues in technology-based and industrial activities, as an engineer.

Module 1: Industrial value creation

- Technical development as a competition factor
- Technology-based business models and strategies
- Innovation, production and marketing
- Organisation
- Human resource management and leadership

Module 2: Calculation

- C/I (Cost/Income) analysis
- Product calculation
- Capital budgeting

Module 3: Reporting and the company's funding

- Bookkeeping and accounting

- Annual report and financial analysis
- The company's funding

The course consists of lectures and calculation exercises (in module 2 and 3) and is examined through three quizzes (each 1.5 higher education credits). The grades on the quizzes are combined to a final course grade.

Examination

- KON4 - Written partial exam1, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- KON5 - Written partial exam 2, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- KON6 - written partial exam 3, 1.5 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.

If the course is discontinued, students may request to be examined during the following two academic years.

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.

Additional regulations

This course replaces ME1040 Industrial Management for Biotechnology 4.0 higher education credits.

Reading list:

Modern Industrial Management, Engwall et.al., (the latest edition), Studentlitteratur.

Exercises for Modern Industrial Management, Engwall et.al (latest edition), Studentlitteratur.