



ME1041 Industrial Management for Chemistry and Biotechnology (4.5 credits)

The course covers 4.5 credits at basic level and students take the course together with ME1003 Industrial Management, basic course (6.0 credits). ME1003 is provided by the department for Industrial Economics and Management (INDEK) Three times a year; in English in period 1 and in Swedish in periods 2 and 3. In period 4, additional partial exams (KON4-6) will be offered according to the schedule on TimeEdit. You can choose whether you wish to use Swedish or English course literature and the examination is provided in both languages.

ME1041 Industrial Management for Chemistry and Biotechnology covers only 4.5 credits of ME1003's 6 credits. Therefore, it is highly recommended that all students join the first lecture (the course introduction) in ME1003 on Monday 25/8 (8:15-10:00) in classroom "F1". During the first lecture, the content of the course, the course syllabus, the examination etc. are described.

Intended learning outcomes

The course focuses on basic concepts and models to understand and handle economic, organizational and management issues in technology-based and industrial activities, as an engineer. More specifically, this means that, after completing the course, you will 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 organized.
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, describe and explain how the activities of an industrial enterprise can be financed.
5. Compile and analyze financial reports for an industrial enterprise.

Main content

The course focuses on basic concepts and models to understand and handle economic, organizational 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
- Business strategy
- Organization

Module 2: Product costing

- Cost and Revenue analysis
- CVP (Cost-Volume-Profit) analysis
- Product costing
- Capital investment and investment evaluation

Module 3: Financial accounting and corporate finance

- Book-keeping and accounting
- Annual report and financial analysis
- Corporate finance

Requirements for previous knowledge and future advanced courses

No prerequisites are required except general admission eligibility.

Instruction

The teaching in module 1 is based on lectures, while modules 2 and 3 offer a combination of lectures and tutorials. The course is examined through three partial exams (KON4, KON5 and KON6) each 1.5 credits.

Educational support

Students who are entitled to compensatory support during the course or the exam are asked to contact the FUNKA unit as soon as possible. See the link below:

<https://www.kth.se/en/student/stod/studier/funktionsnedsattning/kontakt-1.963703>

Teachers and examiners

Course examiner: Mohammad Akhbari

Teacher responsible for the course: Mohammad Akhbari

Teachers: Mohammad Akhbari and Bo Karlson

The teachers are best contacted at lectures.

All other communication with the teachers is handled via the e-mail address: me1003@indek.kth.se, because the course is given together with ME1003. **Please do not use Canvas to communicate with us!**

Course registration

In order to gain access to the course homepage on Canvas and to be examined, you must have registered for the course. All questions regarding *signing up for the course and course registration* are to be addressed to:

education-itm@kth.se.

Course website

All course information is available on the course homepage on Canvas and because the course is given together with ME1003, the course webpage you have access to is “**ME1003/ME1041 HT25 Industrial Management, Basic Course**”. A course evaluation is carried out here at the end of the course. Send a message to me1003@indek.kth.se if you do not have access to the course homepage on Canvas despite having registered.

Examination, tests and grade criteria

After completing the course, the student is awarded a grade based on the course's intended learning outcomes. A, B, C, D and E are pass grades. An Fx grade can be increased to an E grade by doing a supplementary assignment.

The course is examined with three partial exams (KON4-6), one for each course module. A combination of the results of the partial exams determines the final grade of the course. The grading criteria are based on how well the student shows that the student has achieved all the learning objectives of the course as follows:

- Partial exam 1 (KON4, 1.5 credits) examines Module 1 (ILO1 and ILO2) that consists of questions regarding industrial management and value creation. Grading scale: A-F
Note! You must sign up for KON4 via Ladok at latest 1/Sep.
- Partial exam 2 (KON5, 1.5 credits) examines Module 2 (ILO3) that consists of questions regarding product costing and investment appraisal. Grading scale: A-F
Note! You must sign up for KON5 via Ladok at latest 11/Sep.
- Partial exam 3 (KON6, 1.5 credits) examines Module 3 (ILO4 and ILO5) that consists of questions regarding financial accounting and corporate finance. Grading scale: A-F
Note! You must sign up for KON6 via Ladok at latest 30/Sep.

Each module is graded separately, and the total grade is calculated as follows:

M1 (KON4)	M2 (KON5)	M3 (KON6)	Final Grade
F	F	F	F
F	F	E/C/A	F
F	E/C/A	F	F
E/C/A	F	F	F
E/C/A	E/C/A	F	F
E/C/A	F	E/C/A	F
F	E/C/A	E/C/A	F
E	E	E	E
E	E	C	E
E	C	E	E
C	E	E	E
E	E	A	D
E	A	E	D
A	E	E	D
E	C	C	D
C	E	C	D
C	C	E	D
A	C	E	C
A	E	C	C
C	A	E	C
C	E	A	C
E	A	C	C
E	C	A	C
C	C	C	C
C	C	A	B
C	A	C	B
A	C	C	B
E	A	A	B
A	E	A	B
A	A	E	B
C	A	A	A
A	C	A	A
A	A	C	A
A	A	A	A

Maximum 30p/Module	
Grade F	0p - 13p/module
Grade FX	14p/module
Grade E	15p - 20p/module
Grade C	21p - 26p/module
Grade A	27p - 30p/module

Partial exam 1 (KON4, 1.5 credits)	2025-09-15, 16:00-18:00
Partial exam 2 (KON5, 1.5 credits)	2025-09-26, 16:00-18:00
Partial exam 3 (KON6, 1.5 credits)	2025-10-17, 14:00-16:00

In order to get grade E or higher, you must answer all questions with satisfactory results from the point of view of content. You must also demonstrate in a satisfactory manner that your answers are relevant to the course material. Reasoning and discussion shall be clear, well-structured and easy to follow. Basic concepts and models from the area shall be used in the answer. In order to achieve full credits for the questions, calculations need to be correct and models and methods included in the course material shall be used. Credits are deducted for incomplete or otherwise incorrect steps in the solution.

Grade E

- The student clearly describes the meaning of terms, concepts, theories and working methods in the area of industrial management.
- The student analyzes and explains the results to some extent.
- The student describes and answers questions with some confidence.
- The student analyzes and answers simple questions in familiar situations with satisfactory results.

- The student uses an industrial management language with some confidence and adapts his or her communication to the purpose and context of the problem/question to some extent.

Grade C

- The student must have fulfilled/passed the grading criteria for E.
- The student describes in detail the meaning of concepts, models, theories and working methods in the area of industrial management.
- The student analyzes and explains the results of the analyses in a manner that shows a good understanding of the course content.
- The student describes and answers questions and provides examples (if asked for in the question) with some confidence.
- The student analyzes and answers advanced questions in familiar situations with satisfactory results.
- The student uses an industrial management language with some confidence and adapts his or her communication to the purpose and context of the problem/question to a large extent.

Grade A

- The student must have fulfilled/passed the grading criteria for C.
- The student describes in detail and with variation the meaning of concepts, models, theories and working methods in the area of industrial management.
- The student analyzes and explains the results of the analyses in a manner that shows a very good understanding of the course content.
- The student describes and answers questions, provides examples (if asked for in the question) and generalizes (if asked for in the question) with confidence.
- The student analyzes and answers advanced and complex questions in familiar situations with good results.
- The student uses an industrial management language with confidence and adapts his or her communication to the purpose and context of the problem/question to a very large extent.

- **The results of each partial exam are reported within 19 working days of the examination date.**
- **If you have signed up for the partial exams and you have not received any email regarding your exam room by latest 3 days before the exam. Please contact: examinationsadm@kth.se.**

Allowed equipment for the partial exams

Pencil, eraser, ruler, and calculator with erased memory (the calculator's memory may be checked and if found with any programmed data this will be considered cheating and submitted to KTH Disciplinary Board). Dictionaries are not permitted. Mobile phones/Smart watch are not permitted in an examination room under any circumstances. Formula sheets and interest rate tables for partial exams KON5 and KON6 will be distributed by the proctor/invigilators. You are not allowed to bring your own formula sheets to the partial exam.

Before you begin:

- Note that you must be registered on the course in order to get a grade.
- Write your name and social security number (SWE: personnummer) on the first page and your name on all other pages.
- Start the answer to each problem (1, 2, 3 etc.) on a **NEW PAGE**.
- Write clearly so that the text is readable. Unreadable solutions can obviously not be corrected and therefore not given any points.
- It is important that the solution method and the underlying reasoning are reported correctly and clearly. Only simple answers will not be accepted; also the calculations must be shown. Use widely accepted methods, that is, **those discussed in the course**, to solve the problems.

Grade Fx

Students who have received grade Fx on any of the three partial exams (see above) can, by doing a supplementary assignment for each partial exam receive grade E.

Course literature

- **Modern industrial management** Engwall, et al (**Second edition, 2020**), published by Studentlitteratur, **ISBN 9789144141527**. Sold at **KTH's Student Union Bookshop** and on the Internet.
- **Exercises for Modern Industrial Management** Engwall, et al (**Second edition, 2020**), published by Studentlitteratur, **ISBN 9789144141534**. Sold at **KTH's Student Union Bookshop** and on the Internet.

In addition to the course books, there are five *instruction videos* (PPT presentations with audio) available for self-study on Canvas (Kullvén 2014). The videos deal with Cost-Volume-Profit (CVP) analysis, costing, investment appraisal, accounting and finance. Further course material may be made available on the course homepage.

Reading instructions for the course book "Modern Industrial Management"

The Following parts of the course book "Modern Industrial Management" are not included in this course:

- ✓ Chapter 2
- ✓ Chapter 13
- ✓ Chapter 15
- ✓ Chapter 17
- ✓ Chapter 18

The following sections of the course book "Modern Industrial Management" are included in the course but can be read briefly (synoptically):

- ✓ Section 5.5
- ✓ Section 6.4
- ✓ Section 7.4

Registration for exams, re-exams and "grade improvement" ("plussning")

The partial exams are given during periods 1, 2, 3 and 4. All partial exams are provided in both Swedish and English. No re-exams are given during the August period or in any of the other re-examination periods. Extra re-examination dates for individual students are not offered.

It is compulsory to sign up for each of the partial exams. This is done according to KTH's regular procedure for signing up for exams. Without having signed up, you may take a partial exam if there are spaces available and if you can present a printed certificate of having registered for the course. You need to print the certificate yourself.

- For KTH students, sign up for partial exams and business simulation opens as follows:
 - KON4 on **Monday 25/8** and closes on **Monday 1/9** at 23:59.
 - KON5 on **Monday 25/8** and closes on **Thursday 11/9** at 23:59.
 - KON6 on **Tuesday 16/9** and closes on **Tuesday 30/9** at 23:59.
- Sign up for a re-examination (i.e. for the partial exams in one of the other three study periods) is done in the same way.

"Grade improvement" ("Plussning") is not permitted.

Schedule

The current schedule can be found in a separate document.

The course content and modules

Module 1 Industrial management and value creation

<u>ILO:</u>	(Intended Learning Outcomes 1, 2)
<u>Content:</u>	Industrial operation (industrial dynamics, interaction with competitors, customers, suppliers, employees, society etc.), organizing, human resource management, innovation, technology development, corporate management, strategic planning, and marketing.
<u>Lecture:</u>	Lectures 1-7
<u>Literature:</u>	Chapters 1-7, 14 & 16
<u>Examination:</u>	Partial exam 1 (KON4, 1.5 credits)

Module 2 Product costing

<u>ILO:</u>	(Intended Learning Outcome 3)
<u>Content:</u>	Cost-Volume-Profit (CVP) analysis, product costing, investment evaluation.
<u>Lecture:</u>	Lectures 8-10
<u>Literature:</u>	Chapters 8-9
<u>Tutorials:</u>	Tutorials 1-2
<u>Examination:</u>	Partial exam 2 (KON5, 1.5 credits)

Module 3 Financial accounting and corporate finance

<u>ILO:</u>	(Intended Learning Outcomes 4, 5)
<u>Content:</u>	Bookkeeping, financial accounting, financial analysis, the business's capital requirements and financing
<u>Lecture:</u>	Lectures 11-13
<u>Literature:</u>	Chapters 10-12
<u>Tutorials:</u>	Tutorials 3-5
<u>Examination:</u>	Partial exam 3 (KON6, 1.5 credits)