



ME1003 Industrial Management, basic course (6.0 credits)

The course covers 6 credits at basic level and is provided by the department for Industrial Economics and Management (INDEK) four times a year; in Swedish in periods 2, 3 and in English in period 1 and 4. You can choose whether you wish to use Swedish or English course literature and all examination is provided in both languages.

To students from previous course instances who have not passed the exam

From the fall semester 2022, the course is examined with three partial exams and an assignment. A final exam is no longer offered. Students from previous course instances are therefore examined according to the new procedure and must take the partial exams and submit the assignment. Older students can participate in the voluntary, grade-enhancing business simulation. Older students who have participated in the business simulation before HT22 must do it again. See below for details.

Intended learning outcomes

Engineering work involves more than just technology. In order to be able to take part in technology-based transactions, implement projects, develop businesses and lead teams and employees in today's companies, good knowledge of industrial management is necessary. In practice, success lies in understanding both technical and financial aspects of decisions. This course will give you a basic knowledge of industrial management. 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, and describe and explain how the operations of an industrial enterprise can be financed,
5. compile and analyze financial reports for an industrial enterprise,
6. describe the activities and strategic position of an existing industrial enterprise by means of concepts from the subject industrial management and carry out a basic economic analysis of the company's activities financial position and how it is financed.

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
- Organization
- Human resource management and leadership

Module 2: Product costing

- Cost and Revenue analysis
- CVP (Cost-Volume-Profit) analysis
- Product costing
- Investment appraisal

Module 3: Financial accounting and corporate finance

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

Specific prerequisites and future advanced courses

No specific prerequisites are required except general entry requirements. INDEK offers a large number of courses for which this course is a specific prerequisite.

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 (each 1.5 credits) and a written assignment (1.5 credits). During the course, a voluntary business simulation (0 credits) is offered, which can raise **a passing course grade** by one grade level.

Educational support

Students who are entitled to compensatory support during the course or exams are asked to contact the FUNKA unit as soon as possible:

<https://www.kth.se/en/student/stodkontakt/stod/funktionsnedsattning/funka-1.953214>

Teachers and examiners

Course examiner: Mohammad Akhbari

Teacher responsible for the course: Mohammad Akhbari

Teachers: Mohammad Akhbari and Bo Karlson

The best way to contact the teachers is during the lectures.

All other communication with the teachers is handled via the e-mail address: me1003@indek.kth.se.

Please do not use Canvas to communicate with the teachers!

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: gru@itm.kth.se.

Course homepage

All course information is available on the course homepage “**ME1003/ME1040 HT23-1 Industrial Management, Basic Course**” on Canvas, where the written assignment is also submitted. A course evaluation is carried out on this Canvas page 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 for the course.

Examination 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, and an assignment (INLA). A combination of the results of the partial exams and the assignment 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
- 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 KON4 via Ladok at latest 8/Sep.

Note! You must sign up for KON5 via Ladok at latest 15/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 29/Sep.

- Assignment (INLA, 1.5 credits) examines ILO6. Grading scale: P, F
- Business simulation (SIMA, 0.0 credits) is a **voluntary** grade-raising activity in the course and will not affect the final grade of the course for those students who choose not to do it. However, the activity will be graded with P or F for the students who choose to do the business simulation in order to keep track of which students have completed this activity. This means that students who for some reason need to retake some part of the course examinations at a later time, do not have to complete the business simulation again.

You sign up by choosing a SIMA-group on Canvas (3 students/group) no later than 2/October

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

M1 (KON4)	M2 (KON5)	M3 (KON6)	Grade (if P on INLA)
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

Project assignment (INLA, 1.5 credits)	Mandatory examination	P/F
Voluntary Business simulation (SIMA)	Increase of grade one step	P/F

Partial exam 1 (KON4, 1.5 credits)	2023-09-18, 16:00-18:00
Partial exam 2 (KON5, 1.5 credits)	2023-09-29, 16:00-18:00
Partial exam 3 (KON6, 1.5 credits)	2023-10-13, 16:00-18:00

In order to achieve grade E or higher, you must answer all questions with satisfactory results in terms of content. You must also, in a satisfactory manner, demonstrate 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 fulfills all grading criteria for grade E.
- The student, in detail, describes 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) 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 fulfills all grading criteria for grade C.
 - The student, in detail and with variation, describes 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) and generalizes (if asked) 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.**
- **The results of the INLA-assignment are reported within 15 working days after the deadline for submission of the assignment.**

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 13, except for section **13.4 Balanced Scorecard** which is included in the course
- ✓ 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 5.4 and 5.5
- ✓ Section 6.4
- ✓ Section 7.4

Assignment, INLA, 1.5 credits (3 students/group)

The assignment (INLA) means that you, together with two classmates, make a financial analysis and reflect on specific questions related to an industrial company. The submitted assignment is graded P/F.

Grade criteria for INLA-assignment

The written report should:

- answer all questions in all three parts of the assignment,
- provide clear and well-argued answers to the questions,
- demonstrate that understanding has been achieved by clearly showing how the group has argued and what assumptions and simplifications have been made,
- demonstrate the group's ability to use, apply and present appropriate and relevant concepts and models from the course literature,
- be well written, clearly structured and contain a clear recommendation or other conclusion.

Each part is graded P/F. Grade "P" on the assignment requires grade "P" on each of the three parts. The report is graded "FX" if one of the three parts is graded "F". Grade "FX" means that the part that was graded "F" can be rewritten to obtain grade "P". A detailed description of the assignment, including instructions, is available on Canvas.

Submission after the deadline will not be assessed.

The strict word limit of the report must be respected. A report that exceeds or is shorter than the word limit will not be assessed.

Plagiarism is not permitted. Information on plagiarism can be found at [CHEATING AND PLAGIARISM](#). **IMPORTANT! Self-plagiarism is also plagiarism.** See also the document "**Handbook – Guiding students a way from plagiarism**" that can be found on Canvas.

Voluntary Business simulation, SIMA, 0,0 credits (3 students/group)

The voluntary Business simulation (SIMA) consists of a web-based business simulation (Hubro Business Simulation) where you compete against each other in small teams. Each team represents a fictitious company

and the game involves increasing the company's equity as much as possible over a period of time. The simulation is done over the Internet but in a classroom at KTH. Each team needs at least one laptop computer or a tablet/Ipad. You can find more information about the stimulation at: www.hubro.education.

In order to achieve grade "Pass" on the assignment, active participation is required during the entire simulation and that the company's equity has at least doubled during the simulation.

*The student teams that do not succeed in doubling their equity in the company will need to submit an extra assignment in order to receive the grade **Pass (P)** on the business simulation (SIMA).*

*Those students teams that have negative equity in the company at the end of the simulation will receive grade **Fail (F)** on the business simulation (SIMA).*

Registration for partial 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 **Tuesday 29/8** and closes on **Friday 8/9** at 23:59.
 - KON5 on **Tuesday 29/8** and closes on **Friday 15/9** at 23:59.
 - KON6 on **Tuesday 29/8** and closes on **Friday 29/9** at 23:59.
- Students from the Karolinska Institute sign up for the partial exams and the business simulation through their course administrator at KI.
- 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.

INDEK student office

The INDEK student office is located in Sing Sing, Lindstedtsvägen 30. The office is usually open every working day from 9.00 am to 3.00 pm.

Schedule

The current schedule can be found in a separate document.

"Please note that all reports will be checked for plagiarism"

"Self-plagiarism is also plagiarism"

The course content and modules

Module 1 Industrial management and value creation

ILO: (Intended Learning Outcomes 1, 2)

Content: 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.

Lecture: Lectures 1-7

Literature: Chapters 1-7, 14-16

Examination: Partial exam 1 (KON4, 1.5 credits)

Module 2 Product costing

ILO: (Intended Learning Outcome 3)

Content: Cost-Volume-Profit (CVP) analysis, product costing, investment appraisals.

Lecture: Lectures 8-10

Literature: Chapters 8-9

Tutorials: Tutorials 1-2

Examination: Partial exam 2 (KON5, 1.5 credits)

Module 3 Financial accounting and corporate finance

ILO: (Intended Learning Outcomes 4, 5)

Content: Bookkeeping, financial accounting, financial analysis, the business's capital requirements and financing

Lecture: Lectures 11-14

Literature: Chapters 10-12

Tutorials: Tutorials 3-5

Examination: Partial exam 3 (KON6, 1.5 credits)