



MF2085 Innovation- and Product Development Processes 6.0 credits

Innovations- och produktutvecklingsprocesser

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

Establishment

Course syllabus for MF2085 valid from Spring 2017

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

The course is compulsory and only available for students who are admitted to the Master's (120 credits) programme in Integrated product design and the track Innovation management and product development.

Language of instruction

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

Intended learning outcomes

After passing the course, the students should be able to:

• describe how theory related to innovation and product development processes have been developed over time

• explain and compare what characterises different innovation and product development processes and how individuals and groups are influenced

• use systematic methods that are used in different phases of the innovation and product development process

• analyse advantages and disadvantages when it comes to use of different systematic methods in a number of critical situations in innovation and product development processes

• analyse and design innovation and product development processes

• evaluate innovation and product development processes in order to analyse the effects of different designs of innovation and product development processes

• analyse critical integration mechanisms in innovation and product development processes and their usability for different purposes

Course contents

• Different theories and frameworks for innovation and product development processes, such as NPD stage gate, agile development, design thinking, Lean start-up, circular economy

• Systematic methods that are used in different phases of innovation and product development processes, e.g. user involvement, creativity methods, analysis of product and service value, launch and sales of innovation

• Principles and tools for the analysis of innovation and product development processes

• Integration mechanisms in innovation and product development processes, e.g. roles and functions, group dynamics, visualisation and management by objectives

• Project work with a focus on evaluation and design of innovation and product development processes in an organisation

Course literature

Will be announced at the beginning of the course.

Examination

- PRO1 - Project, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Written Exam, 4.0 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.

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

The examination is based on the results of written examination and project work (see separate minor essay for the project work which is distributed, when this is introduced). In the project work, a specific innovation or product development process in an organisation is analysed and a new or improved process is proposed.

Other requirements for final grade

The course grade is calculated as the weighted average of the grades for the written examination and for the project work

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.