

**SYLLABUS**

# **Theory, processes and methods for product development 7.5 credits M7028T**

**Teori, processer och metoder för teknisk produktutveckling**

**Course syllabus admitted: Autumn 2023 Sp 1 - Present**

**DECISION DATE  
2022-02-14**

# Theory, processes and methods for product development 7.5 credits M7028T

## Teori, processer och metoder för teknisk produktutveckling

### Second cycle, M7028T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	U G#	Maskinkonstruktion	Mechanical Engineering

## Entry requirements

Sufficient knowledge depth within the area of engineering sciences. Knowledge in engineering design, production/manufacturing techniques, and computer supported tools for product development (e.g. M0010T, T0015T, M0024T or matching)

## Selection

The selection is based on 30-285 credits

## Course Aim

After passing the course, the student shall be able to:

### 1. Knowledge and understanding

- account for theory, processes and methods for technical product development
- relate to business models, development processes, production / manufacturing and product life cycles and be able to participate in the further development of these

### 2. Skill and Abilities

- apply product development methodology within engineering
- structure and write technical reports

### 3. Assessment and attitude

- evaluate the reasonableness of different sub-solutions in different phases of product development within engineering

## Contents

- Products and product development processes in relation to product lifecycle
- Project management, project organisation, project follow-up and project risks
- Requirements during product lifecycle
- Needs and requirements analysis, idea/concept generation, modelling & simulation, concept generation & selection, also in relation to production & manufacturing
- Detail design and prototyping
- Production & Manufacturing
- Product development in relation to production planning and production capacity
- Company business models and relationship to product development

Payment alternatives

IPR and business risks

## Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Lectures, seminars and project work.

## Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. For a passed final grade (grade scale G U), approved assignments and active participation in seminars and presentations are required.

## Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

## Overlap

The course M7028T is equal to M7015T, M7023T

## Course offered by

Department of Engineering Sciences and Mathematics

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Project Work	U G#	7.5	Mandatory	A16	

## Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

## Last revised

by Niklas Lehto, Programme Director 2022-02-14

## Syllabus established

by Mats Näsström 2016-06-17