

## Disruptive Technologies

Disruptive Technologies  
6 credits

Programme course

TMKA09

Valid from: 2024 Spring semester

<b>Determined by</b>	<b>Main field of study</b>	
Board of Studies for Mechanical Engineering and Design	Design	
<b>Date determined</b>	<b>Course level</b>	<b>Progressive specialisation</b>
2023-08-31	Second cycle	A1X
<b>Revised by</b>	<b>Disciplinary domain</b>	
	Technology	
<b>Revision date</b>	<b>Subject group</b>	
	Design	
<b>Offered first time</b>	<b>Offered for the last time</b>	
Autumn semester 2018		
<b>Department</b>	<b>Replaced by</b>	
Institutionen för ekonomisk och industriell utveckling		

## Course offered for

- Master of Science in Design and Product Development
- Master of Science in Energy - Environment - Management
- Master's Programme in Design

## Prerequisites

Bachelor's degree, or equivalent level, within design, sustainability, management or a similar area.

## Intended learning outcomes

On a re-design and engineering level only limited improvement of sustainability performance is possible. More substantial improvement may require totally new technological solutions, with accompanying societal and market transitions. Think of non-conventional energy in mobility, smart-grids, and bio-based economy. After the completed course the student shall be able to

- articulate the role of systems and actors in technology-related transitions
- describe and explain how and why disruptive technologies emerge and how they impact (and are impacted by) incumbent organizations as well as entrepreneurial start-ups.
- use mapping techniques to perform a system-level analysis of technology trends and their potential influence on design activities with a special emphasis on sustainability.

## Course content

Students will analyze historical disruptive technologies and societal/market transitions, and do a case study with the aim of mapping a desired future sustainable transition, with its accompanying future tech.

## Teaching and working methods

The course will be based on lectures and seminars. Students will explore case studies on disruptive technologies, and write their own case on a specific disruptive technology.

## Examination

UPG3	Written case report	3 credits	U, 3, 4, 5
UPG2	Technology exploration	1.5 credits	U, G
UPG1	Reflection on literature	1.5 credits	U, G

## Grades

Four-grade scale, LiU, U, 3, 4, 5

## Other information

### **About teaching and examination language**

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is “Swedish”, the course as a whole could be given in Swedish, or partly in English. Examination language is Swedish, but parts of the examination can be in English.
- If teaching language is “English”, the course as a whole is taught in English. Examination language is English.
- If teaching language is “Swedish/English”, the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English depending on teaching language.

### **Other**

The course is conducted in such a way that there are equal opportunities with regard to sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.

The planning and implementation of a course should correspond to the course syllabus. The course evaluation should therefore be conducted with the course syllabus as a starting point.

The course is campus-based at the location specified for the course, unless otherwise stated under “Teaching and working methods”. Please note, in a campus-based course occasional remote sessions could be included.