

Disruptive Technologies

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6 credits

Programme course

TMKA09

Valid from: 2022 Spring semester

Determined by	Main field of study	
Board of Studies for Mechanical Engineering and Design	Design	
Date determined	Course level	Progressive specialisation
2021-09-01	Second cycle	A1X
Revised by	Disciplinary domain	
	Technology	
Revision date	Subject group	
	Design	
Offered first time	Offered for the last time	
Autumn semester 2018		
Department	Replaced by	
Institutionen för ekonomisk och industriell utveckling		

Course offered for

- 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

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

Grades

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