



## KURSPLAN

# Utveckling av sociotekniska system, 6 högskolepoäng

*Engineering of Socio-technical Systems, 6 credits*

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Kurskod:	TUSG15	Utbildningsnivå:	Grundnivå
Fastställd av:	VD 2015-02-09	Utbildningsområde:	Tekniska området (95%) och samhällsvetenskapliga området (5%)
Gäller fr.o.m.:	2015-08-01	Ämnesgrupp:	DT1
Version:	1	Fördjupning:	GIN
Diarienummer:	JTH 2015/2142-313		

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## Lärandemål

After completing the course, the student shall

### *Kunskap och förståelse*

- display knowledge of fundamentals of system thinking and socio technical systems
- display knowledge of hard- and soft system perspectives
- display knowledge of emergent and purposive behavior
- demonstrate comprehension of the engineering process (life-cycle) of socio technical systems

### *Färdighet och förmåga*

- demonstrate skills of understanding, evaluation and design of socio technical systems through modeling
- demonstrate ability to apply methods for understanding, evaluation and design of socio technical systems

### *Värderingsförmåga och förhållningssätt*

- demonstrate ability to choose an appropriate method for understanding, evaluation and design of socio technical systems

## Innehåll

The course introduces systems thinking and describes its application to the concept of engineering complex systems, in which software plays a key role. The value of modelling itself is emphasised as a way of understanding and designing socio technical systems. Research and problem solving methods with a strong basis in the systems tradition are elaborated and used in the course.

The course includes the following topics:

- Systems thinking
- Hard and Soft systems
- Representing systems through modeling and models
- Soft Systems Methodology (SSM)
- Socio-technical systems and purposive behavior
- Complexity, chaos theory and emergent behaviour

## Undervisningsformer

The course will consist of lectures, seminars, exercises and practical work.

Undervisningen bedrivs på engelska.

## Förkunskapskrav

General entry requirements and Mathematics D or Mathematics 3c (or the equivalent). Proof of English proficiency is required..

## Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

The final grade for the course is based upon a balanced set of assessments. The final grade will only be issued after satisfactory completion of all assessments.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Examination	3 hp	5/4/3/U
Assignment	3 hp	5/4/3/U

## Övrigt

Exemption from entry requirement allowed according to the selection groups of the program, where the course is included.

## Kurslitteratur

The literature list for the course will be provided one month before the course starts.