

## COURSE SYLLABUS

### Leading Advanced Socio-Technical System, 7.5 credits

*Leading Advanced Socio-Technical System, 7,5 högskolepoäng*

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|--------------|--------------|----------------------|-------------------------------------------------------------------|
| Course Code: | TATS22       | Education Cycle:     | Second-cycle level                                                |
| Confirmed:   | May 06, 2026 | Disciplinary domain: | Technology                                                        |
| Valid From:  | Jan 18, 2027 | Subject group:       | Industrial Engineering and Management                             |
|              |              | Specialised in:      | A1F Second cycle, has second-cycle course/s as entry requirements |
|              |              | Main field of study: | Production Systems                                                |

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## Intended Learning Outcomes (ILO)

On completion of the course the student shall:

### Knowledge and Understanding

- display knowledge and understanding of the characteristics of socio-technical systems in an operations management context
- display knowledge and understanding of different perspectives on leading daily work, change and innovation processes in socio-technical systems

### Skills and Abilities

- demonstrate the ability to design activity centered systems in operations.
- demonstrate skills in leading and participating in collaborative work including reflecting, reporting, and discussing the findings using contemporary presentation tools.

### Judgement and Approach

- demonstrate the ability to embrace interdisciplinary approaches, take different perspectives on socio-technical systems and critically reflect on the impact these have on economic, social and environmental sustainability
- demonstrate the ability to critically analyse how machines and humans interact and adapt in work processes
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for ongoing learning.

## Content

The course includes theories and methods for leadership using a socio-technical perspective. The following are examples of concepts and terms included in the course.

- leadership and complexity
- change and transformation
- learning in organizations
- dealing with uncertainty
- activity centered design
- introducing new advanced technology
- team effectiveness

## Type of Instruction

Lectures, joint and self-led seminars and project work.

Language of instruction is English.

## Entry Requirements

The applicant must hold the minimum of a bachelor's degree (i.e the equivalent of 180 ECTS credits at an accredited university) in engineering or technology. The bachelor's degree should comprise a minimum of 15 credits in mathematics, and taken course Leading Sustainable Operations, 7.5 credits or the equivalent.. Proof of English proficiency is required.

## Examination and Grades

The course is graded 5, 4, 3 or U.

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

Registration of examination:

| Name of the Test      | Value       | Grading |
|-----------------------|-------------|---------|
| Exercise              | 1 credit    | G/U     |
| Summative assessment  | 1 credit    | G/U     |
| Individual assignment | 2 credits   | 5/4/3/U |
| Group project         | 3.5 credits | 5/4/3/U |

## Course Literature

Please note that the course literature may be revised up to eight weeks before the start of the course.