



## KURSPLAN

# Leading Advanced Technical Systems, 7,5 högskolepoäng

*Leading Advanced Technical Systems, 7.5 credits*

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<b>Kurskod:</b>	TATS22	<b>Utbildningsnivå:</b>	Avancerad nivå
<b>Fastställd av:</b>	VD 2021-03-01	<b>Utbildningsområde:</b>	Tekniska området
<b>Gäller fr.o.m.:</b>	2022-01-01	<b>Ämnesgrupp:</b>	IE1
<b>Version:</b>	1	<b>Fördjupning:</b>	A1F
		<b>Huvudområde:</b>	Produktionssystem

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### Lärandemål

After a successful course, the student shall

Kunskap och förståelse

- display knowledge of contradictory and interdependent logics in operations management and the integration of efficiency in daily work and innovation processes in operations
- display a deep knowledge of leading change processes and learning in the organization
- demonstrate comprehension of how advanced technology transformation, as disruptive forces in operations, can be orchestrated and benefit from management

Färdighet och förmåga

- demonstrate skills of activity centered system design in operations
- demonstrate skills in leading and participating in collaborative work and reflection in operations as well as skills in speech and writing
- demonstrate the ability to specify requirements for and use artificial intelligence as decision support

Värderingsförmåga och förhållningssätt

- demonstrate the ability to take different perspectives on problem solving processes
- demonstrate a critical analysis and understanding of how machines and humans collaborate, integrate, and adapt in work processes
- demonstrate a critical analysis of how advanced technology can be democratized (fairness, transparency, trust, and ethical aspects) for social sustainability

### Innehåll

The course includes theories and methods for leading sustainable operations through human-centered management in advanced technical systems with uncertainty and complexity in the transformation processes.

- Communication processes in operations management
- Uncertainty, unplanned and disruptions as learning potential
- Refreeze in Change management

- Human-Centered Management of Machine Learning and Artificial Intelligence (AI)
- Requisitions AI decision support
- Leadership in complex situations
- Contradictions and interdependency
- Learning in organizations
- Team effectiveness
- Activity centered design of supply chain operations

### Undervisningsformer

Lectures, seminars, and project work.

Undervisningen bedrivs på engelska.

### Förkunskapskrav

Passed courses of at least 90 credits within the major subject industrial engineering and management, mechanical engineering, civil engineering, computer engineering (or the equivalent), and 15 credits in mathematics, and completed course Leading Sustainable Operations, 7.5 credits. 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 on 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	4 hp	5/4/3/U
Projektarbete	3,5 hp	5/4/3/U

### Kurslitteratur

The literature list for the course will be provided two months before the course starts.