



**KTH Industriell teknik
och management**

Operations and Supply
Chain Strategy (6hp)

HT-2025

Course content and learning outcomes

Management and development of operations along the entire supply chain is a key responsibility of engineers in all types of industries. The course lectures are based on a reflective and applied approach to key concept and relevant current research in operations and supply chain management, and then connected to case based seminars. The purpose of the course is to give students the knowledge and tools needed to systematically and scientifically approach challenges within this topic.

The overall aim of the course is to give participants comprehensive knowledge on the strategic management of operations and supply chains in different types of industrial and technology based firms. After passing the course successfully, the student shall be able to analyse operations in a supply chain context or perspective as well as participate in, improve and lead change efforts in their respective technological areas.

After passing the course, the participant should be able to:

- Describe why and how operations and supply chain can be designed to enhance the competitiveness of modern industrial firms.
- Describe operations and supply chain management as an academic field and explain basic concepts of the field.
- Describe what economic trade-offs and compromises required in operations systems and supply chains, and what tools and models that can be used for such analyses in the pursuit of value creation.
- Describe concepts such as servitization, digital ecosystem, lean or agile operations, and explain how they are used in practice with a supply chain perspective.
- Describe innovation strategies and possibilities and barriers in continuous improvement work, and state advantages and drawbacks of different approaches.
- Discuss effects of current trends (for instance, scarcity, inflation) on supply chain operations and management
- Apply methods for analysing operations and supply chains, aiming at identifying improvement areas for sustainable improvements.
- Present and defend written and orally presented analyses and recommendations based on cases.

Learning approach

The course consists of a combination of taught lectures and seminars. The lectures present and critically discusses relevant concept and theories. These are then critically and reflectively applied to specific organisations during the seminars, where the students in smaller groups analyse a given case and present the results.

Grading criteria

After a completed course, students shall be able to show understanding of the concepts and theories covered in the course according to the following grading criteria for the written exam. For the seminars, an honest effort to participate in the group work and delivery of the case analysis is expected for a pass grade, with the same grade given to all group members.

Grade	Comment
A	High degree of shown critical and reflective approach of the relevant concepts and theories in both application and analysis.
B	Comprehensively shown understanding of relevant course concepts and theories and their application. Clear critical approach to concept application, with some reflection on the concepts.
C	Comprehensively shown understanding of relevant course concepts and theories and their application. Some critical approach to them and their application. Relevant and critical analysis.
D	Shown understanding of relevant course concepts and theories and their application, but mostly used in descriptive rather than reflecting manner. Limited shown critical thought in the analysis.
E	Limited shown understanding of relevant course concepts and theories and their application. Inconsistent own analysis.
Fx	Insufficient shown understanding of relevant course concepts and theories and their application
F	Not shown understanding of relevant course concepts and theories and their application

Course examination consists of two parts – an individual exam (TENA) and group based seminar assignments (SEM).

- By the end of the course there is a written exam. It examines student understanding of the course concept and theories and their application. A pass grade (A-E) of the exam requires a pass grade of at least E on all exam questions. One (1) exam question graded as Fx can be compensated for through additional assignment and be upgraded to E.
- For the seminar part, during the course students will work in smaller groups on case based analysis applying relevant concepts and theories discussed in preceding lectures. A pass grade (P) on the seminar part (SEM) requires at least the grade E on all seminar assignments. All students in a group receive the same grade.

Eligibility

Mandatory for TINEM to be registered for ME2501 Perspective on Industrial Management.

Literature

Information on the course literature is provided at the beginning of the course at the latest. The literature consists of a mixture of academic articles, course textbook, and business specific articles.

Examination

- SEM2 - Seminar, 1.0, grading scale: P, F
- TENA - Examination, 5.0, grading scale: A, B, C, D, E, Fx, F

Module examiner

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