



COURSE SYLLABUS

Designing Supply Chain Operations, 7.5 credits

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Course Code: TSCS21	Education Cycle: Second-cycle level
Confirmed by: Dean Mar 1, 2021	Disciplinary domain: Technology
Revised by: Director of Education Oct 25, 2023	Subject group: IE1
Valid From: Aug 1, 2024	Specialised in: A1F
Version: 4	Main field of study: Production Systems

Intended Learning Outcomes (ILO)

After a successful course, the student shall

Knowledge and understanding

- demonstrate comprehension of supply chain operations management and the skills central to manufacturing and humanitarian supply chains
- demonstrate comprehension of the key components of supply chain design, and their role in achieving organizational goals.
- demonstrate comprehension of various supply chain processes and different ways of arranging them.
- demonstrate comprehension of the balance between efficiency requirements and the need for renewal in the supply chain

Skills and abilities

- demonstrate the ability to evaluate design options in different types of supply chains
- demonstrate the ability to discuss and critically reflect on different types of supply chain design, both verbally and in writing

Judgement and approach

- demonstrate the ability to evaluate different supply chain design alternatives with respect to economic, social and ecological sustainability
- demonstrate an understanding of the short and long term consequences of decisions in supply chain operations design

Contents

The course covers how the resources and processes of operations are designed in manufacturing as well as humanitarian supply chains. The course takes a process perspective on how the overall form, arrangement and nature of transforming resources impact the flow of transformed resources as they move through the operation. It also covers the relations between operations and the supply network in relation to economic, social and ecological sustainability.

The course includes the following elements;

- Process design, various types of process, and how these are designed
- Layout and flow and how different ways of arranging facilities impact the flow through the operation
- Process technology and the impact developments in technology have on the effectiveness of operations
- Supply chain design, the relation between the external and internal supply chains, sourcing, and distribution.

Type of instruction

Lectures, seminars, course work.

The teaching is conducted in English.

Prerequisites

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 Introduction to Supply Chain Operations Management, 7,5 credits or the equivalent. Proof of English proficiency is required.

Examination and grades

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

Registration of examination:

Name of the Test	Value	Grading
Examination ¹	4.5 credits	5/4/3/U
Assignment	3 credits	U/G

¹ Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

The literature list for the course will be provided eight weeks before the course starts.

Title: Supply Chain Management: Strategy, Planning, and Operation (2019), 7th Edition

Author: Sunil Chopra

Publisher: Pearson.