



## COURSE SYLLABUS

# Circular Economy, 7.5 credits

*Cirkulär Ekonomi, 7,5 högskolepoäng*

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<b>Course Code:</b> TCEN14	<b>Education Cycle:</b> First-cycle level
<b>Confirmed by:</b> Dean Mar 1, 2024	<b>Disciplinary domain:</b> Technology
<b>Valid From:</b> Aug 1, 2024	<b>Subject group:</b> IE1
<b>Version:</b> 1	<b>Specialised in:</b> G2F
	<b>Main field of study:</b> Production Systems

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### Intended Learning Outcomes (ILO)

After a successful course, the student shall;

Knowledge and understanding

- display knowledge of key principles and concepts of circular economy and sustainable supply chain and operations management.
- demonstrate comprehension of circular economy and sustainable supply chain and operations management approaches.
- demonstrate understanding of the application of circular economy and sustainable supply chain and operations management concepts in various industries.

Skills and abilities

- demonstrate skills of identification and application of circular economy and sustainability principles and concepts in operations and supply chains.
- demonstrate the ability in speech and writing to clearly report and discuss circular economy and sustainability concepts in supply chains.
- demonstrate the ability to develop persuasive arguments for the adoption of circular economy and sustainable supply chain and operations management principles in industries.

Judgement and approach

- demonstrate the ability to assess and analyze real-world examples of circular economy and sustainable supply chain and operations management initiatives in various industries.
- demonstrate the ability to critically analyze the economic, environmental, and social impacts of adopting circular economy and sustainable supply chain operations practices and tools.
- demonstrate the ability to critically evaluate emerging technologies and their potential impact on circular economy and sustainable supply chain operations practices.

### Contents

The course covers the topics below in relation to principles and concepts of circular economy and sustainability in the context of supply chain and operations management.

The course includes the following elements:

- Introduction to circular economy and sustainable supply chain and operations management
- Circular economy and sustainable supply chain and operations management in various industries (manufacturing, service industries, challenges, and opportunities)
- Circular business models (development and implementation of models, case studies)
- Policy and regulations (global and local, challenges and opportunities)
- Circular economy and sustainability (SDG's, social, economic, environmental impacts)
- Circular economy and sustainability metrics and indicators (measurement metrics, CE tools)
- Circular economy and Industry 4.0 (automation, digitalization, digitization)

### **Type of instruction**

The course includes lectures, seminars, and assignments with supervision.

The students carry out one module of the course at the University of Udine and one module at the School of Engineering at Jönköping University.

The teaching is conducted in English.

### **Prerequisites**

Passed courses of at least 90 credits within the major subject industrial engineering and management.

A prerequisite to attend the course is to be accepted to the International Operations Management and Sustainability course at the University of Udine, which is administered in a separate process.

### **Examination and grades**

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

The course is examined through an individual assignment.

Registration of examination:

Name of the Test	Value	Grading
Assignment	7.5 credits	5/4/3/U

### **Other information**

All course information and communication throughout the course are managed through the education platform Canvas.

### **Course literature**

The literature list for the course will be provided 8 weeks before the course starts.

A list articles will be supplied at the course introduction.