



# FMG3210 Circular Economy and Industrial Systems 7.5 credits

## Circular Economy and Industrial Systems

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

## Establishment

Official course syllabus of FMG3210 applies from spring semester 2019

## Grading scale

P, F

## Education cycle

Third cycle

## Specific prerequisites

Master or Degree of Master of Science in Engineering.

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

- Be able to discuss the conceptual and methodological frameworks that are required to understand the foundation for Circular Economy
- Be able to account for present industrial trends with respect to Circular Economy
- Be able to adopt a system perspective for the implementation in industry and society and discuss possibilities and obstacles at implementation
- Be able to relate to and justify the policy foundation for Circular Economy

## Course contents

The course consists of a number of seminars that describe the conceptual foundations for Circular Economy (CE) and the framework that is needed to implement the concept in industry and in society. The discussions and the presentations during the seminars will focus on the system perspective, which includes material and the energy flow in industrial systems, manufacturing systems that consider different business models, that design and value chains are considered at the same time. Effects on the environmental and economic performance, requirements on innovation and change management and finally Industry 4.0 role for a successful implementation of Circular Economy.

## Examination

- DEL1 - Participation, 2.5 credits, grading scale: P, F
- INL1 - Assignment, 5.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

## Other requirements for final grade

Participation in seminars, written assignments

## Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.