



# ML2304 Sustainable Development in Industry 6.0 credits

Hållbar utveckling i industriell verksamhet

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

On 05/10/2021, the Dean of the ITM School has decided to establish this official course syllabus to apply from spring term 2022 (registration number M-2021-1697).

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

Second cycle

## Main field of study

Mechanical Engineering

## Language of instruction

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

## Intended learning outcomes

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

1. Apply the concept of sustainable development and the context where it is applicable for industry and the industrial system
2. Describe and critically review which sustainability practice tools that can be used to contribute with value for the corporation, its customers and the overall society
3. Describe and critically reflect on concepts within industrial sustainability, such as corporate social responsibility and circular economy
4. Analyse and practically train tools for sustainability work, such as environmental management systems, life cycle assessment, and energy and material flow analysis
5. Analysing and critically reflect on risks and opportunities from an industry company perspective based on a systems approach by foresee potential and likely future scenarios in an unpredictable world.

## Course contents

The content of the course is based on increased business advantages that can arise from strategic sustainability practices and management. In a world where climate- and environmental challenges dominate the business agenda, sustainability creates competitive advantage, credibility and trust. The course content covers both a theoretical background on sustainability for industry, and practical tools and procedures that can assist industrial companies and professionals to develop more sustainable production systems.

More specifically, the course introduces a basic introduction to the concept of sustainable development including the three dimensions of sustainability: economical, environmental and social; the global Sustainable Development Goals in the United Nations' Agenda 2030; as well as a discussion on values and stakeholder perspectives. Further, the course deepens the understanding on complex systems and provides practical tools for implementing sustainability in business. All aspects are taught with an emphasis on how concepts, tools and procedures can assist in building value for the company.

## Specific prerequisites

Completed course ML1503 Industrial systems II, 6 credits

Completed course ML1502 Sustainability in industry, 7.5 credits

Completed degree project course, first cycle, 15 credits

## Examination

- INLA - Assignment, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, 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.

The examiner decides, in consultation with KTH's coordinator for disabilities (Funka), about possible adapted examination for students with documented, permanent disabilities. The examiner may permit other examination format for re-examination of individual students.

## **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.