

COURSE SYLLABUS

Introduction to Sustainable Manufacturing, 2.5 credits

Introduktion till hållbar tillverkning, 2,5 högskolepoäng

Course Code: T2ITHP	Education Cycle: Second-cycle level
Confirmed: May 06, 2026	Disciplinary domain: Technology
Valid From: Jan 18, 2027	Subject group: Mechanical Engineering
	Specialised in: A1N Second cycle, has only first-cycle course/s as entry requirements
	Main field of study: Production Systems

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and Understanding

- show familiarity with different perspectives on sustainability and how these relate to sustainable manufacturing of metallic components
- demonstrate comprehension of key strategies for sustainable manufacturing, including, for example, resilience and environmental management systems

Skills and Abilities

- demonstrate skills in applying methods and tools in an industrial setting to analyse sustainability aspects of manufacturing systems for manufacturing metallic components

Judgement and Approach

- demonstrate the ability to identify and evaluate sustainability challenges and improvement potentials in manufacturing systems using relevant strategies, methods and tools

Content

This overview course introduces sustainability perspectives with relevance to industrial production. The course provides an introduction to commonly used strategies, methods, and tools for addressing sustainability aspects in manufacturing systems. The focus is on increasing awareness of typical sustainability challenges and improvement opportunities in an industrial setting.

The course includes the following elements:

- Perspectives on sustainability (e.g. Triple bottom line, Absolute sustainability, Rebound)
- Sustainable production fundamentals
- Strategies for sustainable manufacturing (e.g. Resilience, Environmental management)
- Methods and tools for sustainable manufacturing (e.g. Eco-design, Green performance map, Waste flow mapping, Material flow analysis)

Type of Instruction

Lectures, seminars and assignments.

Language of instruction is English.

Entry Requirements

Academic degree of at least 180 ECTS credits within Engineering and/or Technology or passed courses of at least 40 credits in the main field of study within Engineering and/or Technology and at least 1 year of work experience in the manufacturing industry or at least 4 years of work experience in the manufacturing industry. Proof of English proficiency is required.

Examination and Grades

The course is graded Pass (G) or Fail (U).

The final grade will be issued after satisfactory completion of all mandatory examination elements.

Registration of examination:

Name of the Test	Value	Grading
Seminar	1.5 credits	G/U
Assignment	1 credit	G/U

Course Literature

Please note that the course literature may be revised up to eight weeks before the start of the course.

Johansson, Glenn & Sundin, Erik & Wiktorsson, Magnus. (2019). Sustainable Manufacturing, Studentlitteratur, ISBN: 9789144120546.

Lecture slides and additional course literature will be provided on Canvas.