COURSE SYLLABUS

Environmental Impact Assessment of Castings, 3 credits

Miljökonsekvensbedömning av gjutgods, 3 högskolepoäng

Course Code:	TMKK11	**Education Cycle:**	First-cycle level
Confirmed by:	Dean Mar 1, 2021	**Disciplinary domain:**	Technology
Revised by:	Director of Education Jan 20, 2022	**Subject group:**	MA2
Valid From:	Aug 1, 2022	**Specialised in:**	G1F
Version:	2	**Main field of study:**	Product Development

Intended Learning Outcomes (ILO)

After a successful course, the student shall;

Knowledge and understanding

• demonstrate comprehension of how a cast component affects the environment and how the different phases of its life cycle contribute to consumption of energy

• display knowledge of how life cycle analysis must be produced, from raw material extraction to disposal or recycling

• demonstrate comprehension of how individual phases as well as the total environmental impact are calculated and analyzed

Skills and abilities

• demonstrate the ability to apply life cycle assessment and to use appropriate methods of conducting an environmental impact assessment

Judgement and approach

-• demonstrate the ability to critically assess how to prevent and minimize environmental impact and energy consumption

Contents

The course includes following elements:

• Identification of the various environmentally burdening phases related to cast components
• Evaluation of the environmental load associated with the different phases including the calculation of CO_2 emissions and the total consumption of energy using appropriate tools
• Case study

Type of instruction

Lectures, online laboratory activities and exercises, quizzes, project work, discussion forum.

The teaching is conducted in English.

Prerequisites

General entry requirements, Physics 2, Chemistry 1, Mathematics 3c, and completed course in Component Casting, 6 credits, and proof of English proficiency is required (or the equivalent).

Examination and grades

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

Registration of examination:

Name of the Test	Value	Grading
Examination[I]	1.5 credits	5/4/3/U
Exercises and Project Work	1.5 credits	U/G

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

Course literature

Literature

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