



# ML230X Degree Project in Sustainable Production Development, Second Cycle 30.0 credits

Examensarbete inom hållbar produktionsutveckling, avancerad nivå

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

## Establishment

On 15/10/2019, the Dean of the ITM School has decided to establish this official course syllabus to apply from spring term 2020 (registration number M-2019-2078).

## Grading scale

P, F

## Education cycle

Second cycle

## Main field of study

Mechanical Engineering

## Specific prerequisites

To be eligible to start a degree project in sustainable production development at second cycle level, the following is required:

At least 240 higher education credits completed, with at least 30 higher education credits at second cycle level in the area of sustainable production development.

Completed the course ML2307 Theory of Science and Research Methodology in Sustainable Production Development, or the equivalent.

Demonstrated sufficient subject understanding, relevant for the specific problem in the area of sustainable production development.

## Language of instruction

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

## Intended learning outcomes

On completion of the course, the student should:

- Show knowledge of the scientific and methodical bases of the chosen technical work in the area of sustainable production development
- Show a specialised understanding of current research and development through his work of search for, compile and integrate knowledge, all based on a holistic, critical and systematic approach
- Demonstrate the ability to identify, analyse, evaluate and handle complex phenomena, questions and situations concerning design, design, analysis, optimisation, choice of material, production or operation of different technical systems in the area of sustainable production development, also from limited information
- Through his work demonstrate the ability to plan and with appropriate methods carry out advanced assignments in a limited time frame and evaluate this work
- Demonstrate ability to both orally and in writing and in dialogue with different groups, account clearly for and discuss conclusions, and the facts and arguments that these build on
- Through his work demonstrate an understanding of scientific, social and ethical aspects relevant for sustainable production development and methodology for assessments of these
- Show the proficiencies that are required to participate in research and development or to work independently in other advanced professional role concerning sustainable production development

## Course contents

This course consists of activities to carry out a degree project at second cycle level in a subarea of sustainable production development . This can concern industrial design, design, analysis, optimisation, choice of material, manufacturing and operation of different technical systems and products in the area of sustainable production development.

The main result will be a final written report, the degree project and an oral presentation. Relevant and scientifically valid results in the degree project require use of knowledge in different fields that are covered by earlier completed courses and additional studies and industrial experience based on need. The student develops proficiencies in the process to create new knowledge based on established theories and methods. The results of the work must have relevance for industrial application in addition to academic relevance.

The course contains seminars to develop the degree project. The continuous discussion about the degree project with supervisor and in seminars is an important part of the course.

## Examination

- PROA - Project assignment, 30.0 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.

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

## Other requirements for final grade

Completion of seminars or other activities that have been established by supervisor/examiner as milestones for progress in the degree project.

Students who are registered as five year engineering students must check that other intended learning outcomes satisfy other requirements that apply to their programme and for final mark.

## 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.