



# ML1110 Mechanical Engineering, Introduction Course 9.0 credits

Maskinteknik, introduktionskurs

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

Course syllabus for ML1110 valid from Autumn 2017

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

## 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:

- account at a general level for common concepts within the field of mechanical engineering
- describe a given project model and be able to write the documents that are necessary to carry out a project according to the same
- identify the knowledge need for the project and search, review and summarise the information content in writing, being critical of the sources
- account for methods used in the project and evaluate its results
- reflect on group dynamics and have understanding of different roles in a group to thereafter be able to work in a project and in groups in an more efficient way
- present the work of the project group in a technical report
- prepare and carry out an oral presentation for a large audience
- formulate a strategy for continuous self-development and lifelong learning
- use a conscious learning process and have chosen study techniques for ones education
- formulate one's own aims for the studies and plan the education based on learning objectives, course syllabuses and grading criteria as well as plan and carry out the work based on given time frames
- write a reflecting text from a given external viewpoint using proper language
- account at a basic level for the concepts of ecologically, socially and economically sustainable development from an engineering perspective
- discuss sustainable development in some technical fields from an introductory perspective

## Course contents

In the module "Individual exercises":

- Learning and study strategies
- Self-responsibility and impact assessment
- Self-reflection, communication and reading and writing training

In the module: "Project with exercises", a project and exercises are carried out in groups with the following contents:

- Group dynamics and group contract for the rules of the group
- Problem formulation, aims, delimitations and solution methods
- Project planning, time and activity planning
- Planning and execution of project meetings including invitation, agenda and protocols
- Information search and retrieval including evaluation of its credibility and usability
- A technical project report

- Planning and execution of an oral presentation
- Evaluation and reflection after completed project

In the module "Sustainable development":

- Fundamental concepts in sustainable development. Introduction to the subject, definitions and central concepts.
- The role of the engineer for sustainable development. Handling of physical resources.
- A number of seminars concerning dilemmas in sustainability.
- A number of written assignments.
- A written examination.

## Disposition

Lectures with associated exercises. Compulsory attendance on lecture in group dynamics to other lectures be given other compulsory assignments. A number of group or individual written assignments.

A project that is carried out and is examined according to project memo (Projekt-PM). Compulsory attendance at the activities of the project.

For the course module "Sustainable development": Lectures. Compulsory seminars and written assignments. Written examination

## Course literature

- Kompendium: Maskinteknik, introduktionskurs: Handbok för projekt, publiceras på kursweb
- Nilsson Björn, Samspel i grupp, förlag: Studentlitteratur, ISBN 9789144110103
- Hållbar utveckling - en introduktion för ingenjörer, Jon-Erik Dahlin, förlag: Studentlitteratur, ISBN 9789144092669

## Examination

- ANN1 - Sustainable development, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- PROÖ - Project with exercises, 5.5 credits, grading scale: P, F
- ÖVN1 - Individual exercises, 2.0 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.

## 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.