ML1110 Mechanical Engineering, Introduction Course 9.0 credits

Maskinteknik, introduktionskurs

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

Establishment

On 11/04/2019, the Dean of the ITM School has decided to establish this official course syllabus to apply from autumn term 2019 (registration number M-2019-0676).

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 student should be able to:

- account at a general level for common concepts within the field of mechanical engineering
- formulate own aims for his/her studies a strategy for continuous self-development and lifelong learning
- reflect on group dynamics and have understanding of different roles in a group to thereafter be able to work in groups in an efficient way
- give an account of used methods in the project, use 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 needed, source-critically search, review and in writing summarise the information content of a technical report
- 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

For higher grades, the student should furthermore be able to:

- Report his position on ethical, social and environmental consequences of the work of the engineer and the role of the technology in society

Course contents

The course gives a foundation and tools to carry out the education programme in a good way, and contains topic-specific intended learning outcomes, trains complementary skills and conveys knowledge and abilities related to study techniques and the programme.

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 exam

In the module "Individual exercises":

- Learning and study strategies
- Self-responsibility and impact assessment
- Self-reflection, communication and reading and writing exercise
- Seminar about cheating and plagiarism, including reflection on the ethical aspects

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, including evaluation of its credibility and usability
- Compilation of a technical project report
- Planning and execution of an oral presentation
- Evaluation and reflection after completed project

Examination

- ÖVN1 - Individual exercises, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- ANNA - Sustaiable development, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO1 - Project with exercises, 4.0 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.

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.