



ML2202 Computerized Tools in Design Process, Intermediate Course 7.5 credits

Datorbaserade designverktyg, fortsättningskurs

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

Establishment

Course syllabus for ML2202 valid from Autumn 2012

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Knowledge corresponding to HM1002/6S2402 (Computerized Tools in Design Process, Basic Course) and computer section of the HN1900/6S2900 (Engineering and Information Skills). Recommended is HM1018/6S3404 (Innovation and Design Process) and HM1009/6S2412 (Industrial Design with Colour and Craft).

Language of instruction

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

Intended learning outcomes

The course's overall objective is to give knowledge about using different types of computer based design tools in a structured way, in order to provide improved quality in supporting the industrial design process, from concept to a physical prototype. There is also emphasis on how to present solutions in a tasteful way.

After the course, students will be able to:

- Identify limitations and opportunities with softwares used in the course
- Identify and apply appropriate modelling strategy, as well as select appropriate software for modelling. Selection of strategy and software is based on product's geometry, function, and manufacturing
- Produce digitally and printed presentation material based on digital models, using softwares presented in the course
- Produce rapid prototyping prototypes based on digital models
- Present solutions to given problems both orally and in writing, supported by digital models and physical prototypes

Course contents

- Surface-, curve- and solid modelling with emphasis on surface modelling
- Basic image processing for computer screen and printing
- Lighting, textures and rendering of digital models
- Production of prototypes with rapid prototyping

Disposition

The course is carried out mainly through exercises with supportive briefings in a commercial software.

Course literature

Egenproducerade kursbuntar används samt programvarornas on-line dokumentation.

Examination

- ÖVN1 - Exercises, 4.5 credits, grading scale: P, F

- ÖVN2 - Exercises, 3.0 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

Approved individual computer exercises (ÖVN1; 4.5 ECTS credits), P/F grading scale

Approved major computer exercise (ÖVN2; 3 ECTS credits), P/F grading scale

Criteria for final grade are based on examination and is announced at the start of the course.

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.