



MG2040 Assembly Technology

6.0 credits

Monteringsteknik

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

Establishment

On 21/04/2020, the Dean of the ITM School has decided to establish this official course syllabus to apply from spring term 2021 (registration number M-2020-0848)

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Admitted to a Master programme

and

MG1016/MG1026 Manufacturing Technology

or the equivalent

Language of instruction

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

Intended learning outcomes

After the course, the students should be able to:

- describe the role of the assembly process within the manufacturing domain and discuss its importance
- create mathematical and feature models of assemblies and use them in context of design and evaluation of assembly systems
- account for the dynamic and static constraints of a manual or automatic assembly process
- analyse a given product and define feasible assembly sequences
- choose the best sequence by applying technical and economical criteria
- describe the function of all the elements of an assembly system (both automatic and manual)
- evaluate the impact of the product design on the assembly process, by applying the Boothroyd DFA methodologies
- identify the requirements on design of an assembly station and provide instructions for the subsequent implementation
- calculate the costs and the most important economical key performance indicators (KPIs) for standard assembly systems (both manual and automatic)

Course contents

- Basic concepts in assembly technology
- Manual assembly
- Automated assembly
- Product design for assembly (Design for assembly – DFA): Manual and automated
- Components of the assembly system
- Assembly in textile and wood working industry

Examination

- PRO1 - Project, 0.0 credits, grading scale: P, F
- TEN1 - Written exam, 6.0 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.

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

Other requirements for final grade

Approved Project task (PRO1; 0 cr)

Passed examination (TEN1; 6 cr)

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.