MG2014 Advanced Welding Technology, Modulus 2 6.0 credits

Svetsteknologi, högre kurs, modul 2

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

Establishment

Course syllabus for MG2014 valid from Autumn 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Registered to MG1010 Introductory Welding Technology, general course

Basic eligibility and 120 cr in Engineering

knowledge of Swedish B/Swedish 3

or the corresponding

Language of instruction

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

Intended learning outcomes

After passing this course, the student will be able to:

- thoroughly describe the materials technology of welding (weldability and how materials are affected)
- describe different metals and their alloys, and their properties in welded constructions
- describe how different pre- and post-treatment methods affects the materials
- describe advantages and disadvantages of different surface coating methods
- describe how the environment (corrosion, temperature, wear) affects materials and welded constructions
- analyse risks of a welded construction and its defect tolerance
- correctly select material and appropriate welding methodology

Course contents

Materials (mild steel, stainless steel, aluminum, cast iron, etc.) and their behavior during welding. Welding additives (different types for different welding processes, materials), Metrology, standards and documentation.

Disposition

The classes are mainly concentrated to two full days of studies, in average every second week during two months . In between classes, homework assignments and preparation work have to be completed. High degree of attendance to classes is required.

Course literature

MNC Handbok 15 Svetsning av stål (utgåva 3), Svetsningens materialteknologi (Hannerz, KTH),
Goda råd vid aluminiumsvetsning (Svetskommissionen Hb 46)
samt utdelat material i kursen

Examination

- LABA - Laboratory work, 2.0 credits, grading scale: P, F

- TENA - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- DEL1 - Attendance, 0.0 credits, grading scale: P, F
- HEM1 - Home assignment, 1.0 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.