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.

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

Establishment

Course syllabus for MG2014 valid from Spring 2012

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

MG1010 Introductory Welding Technology, general course
MG1011 Introductory Welding Technology, advanced course
MG1012 Non-Destructive Testing
MG2013 Advanced Welding Technology, Module 1

or corresponding

Language of instruction

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

Intended learning outcomes

Upon completion of this course, the student will have

- deeper knowledge of materials technology of welding
- deeper knowledge of different metals and their properties in welded constructions
- knowledge of quality techniques at production by welding
- knowledge of current computer systems and cost for welding operations
- knowledge of applications of strength of materials on welded constructions
- knowledge of applications of fracture mechanics on welded constructions, pressure vessels etc.
- ability to perform design calculations on a welded component
- ability to analyse defect tolerance of a casualty critical construction

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; In Swedish)
Svetsningens materialteknologi (Hannerz, KTH; In Swedish),
Goda råd vid aluminiumsvetsning (Svetskommissionen Hb 46; In Swedish)

and handouts distributed during the course utdelat material i kursen.

Examination

- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Exercise, 1.5 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.

Other requirements for final grade

Written examination (TEN1; 3 credits)
Lab work (LAB1; 3 credits)

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.