Course offer

HÖGSKOLAN VÄST

Welding Technology – Sustainability Aspects in Welding 2.5 hp

This course gives an overview of welding processes and their applications, particularly highlighting-sustainability aspects based on industrial application. The course will focus on arc welding processes and covers the basic topics including, arc physics, droplet transfer, heat input, optimization of welding parameters and productivity, with consideration of how this affects the sustainability of welding activities. Modern controlled wave form welding will be illustrated and its impact on welding activity will be explained. In connection with this, modern welding equipment will in introduced. In the end, the student should be able to select welding process based on industrial needs and make proposals for optimizing welding parameters for enhanced productivity in line with sustainable production.

Content

The course includes the following modules:

- Overview of welding process and arc welding
- Arc welding processes:
  - ✓ TIG welding
  - ✓ Submergy Arc Welding (SAW)
  - ✓ MIG/MAG welding (GMAW)
- Welding parameter optimization and process window, including requirements
- Controlled waveform welding process
- Equipment used in modern arc welding
- Case study
- Topic Seminar (presentation and discussion)

Industry and university

This course has been developed in collaboration with industrial partners in one of our education projects. The project aims at holding master's level courses for a mixed group of students and professionals to increase the competitiveness of the Swedish industry.

Implementation and pedagogic concept

The course is based on University West's concept of *work integrated learning*, which aims at integrating both theory and practice in education. Theoretical lectures are combined with case studies and practical examples.

Course form

Web-based with occasional physical meetings

The course is mainly given via distance in flexible, net-based form with one or two physical meetings. On-line lectures are combined with supervision and reporting meetings using web-based meeting systems. Some course meetings are compulsory.

Course material

Lecture material & hand-outs

Target audience

This course is aimed at people working in technology and development related to welding, but not limited to, who have the ambition to enhance and develop their knowledge about welding technology.

Prerequisites

Three years of higher education (Bachelor level) in engineering& technology (Bachelor degree corresponding to 180CP). Alternatively relevant professional work experience. Attach resume if your application is based on work experience. A template (in Swedish) is available at our website http://www.hv.se/produktionskurser.

Examination

Exam including group work of:
Case study
Oral presentation in seminar

Registration

Register the course via Högskolan Västs website www.hv.se/produktionskurser

More information

For more information, please contact produktionskurser@hv.se