

BET project, Welding Technology: Testing and Quality Assurance for Welding

D2.1 Learning Outcomes (LOs) protocols

EQF 5-6

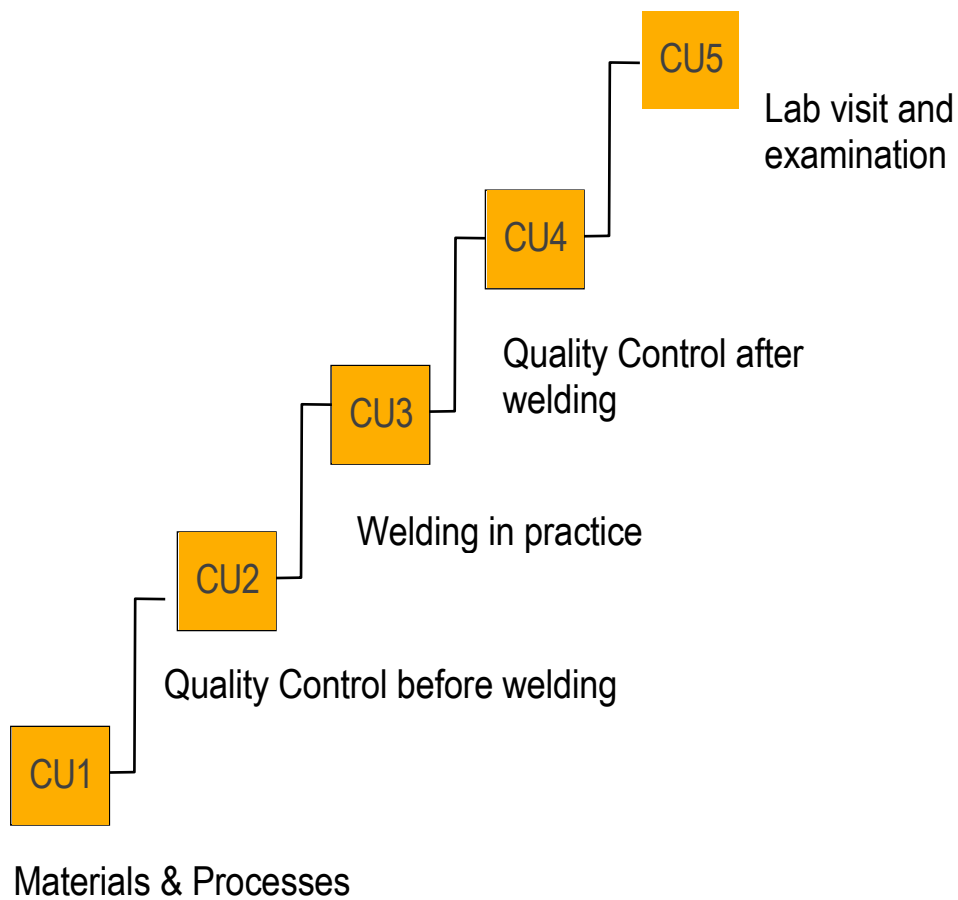
This guideline describes how to structure, organize and start using course frameworks consisting of *learning goals* (content, general learning outcomes, specific learning outcomes and general competences), *effective usage of digital libraries*, proposed *training methods* and *implementation of work-based training* activities, at EQF 4 and 5 levels. Each course is structured and organized in a discrete number of *N* unique *Competence Units (CUs)*. A CU is a specific subject module that is leveled and aggregated for site machine operatives and fabrication process technician levels.

The descriptions of these 4 frameworks should be done at *course level* and at the *competence unit levels*. This innovative and flexible training solution methodology demonstrates how VET schools may set up, establish and deliver blended learning solutions that better respond on industry demands. The CUs should be structured and delivered according to the industry needs, whereby the CU follows the industry fabrication requirements for specific methods, processes and materials.



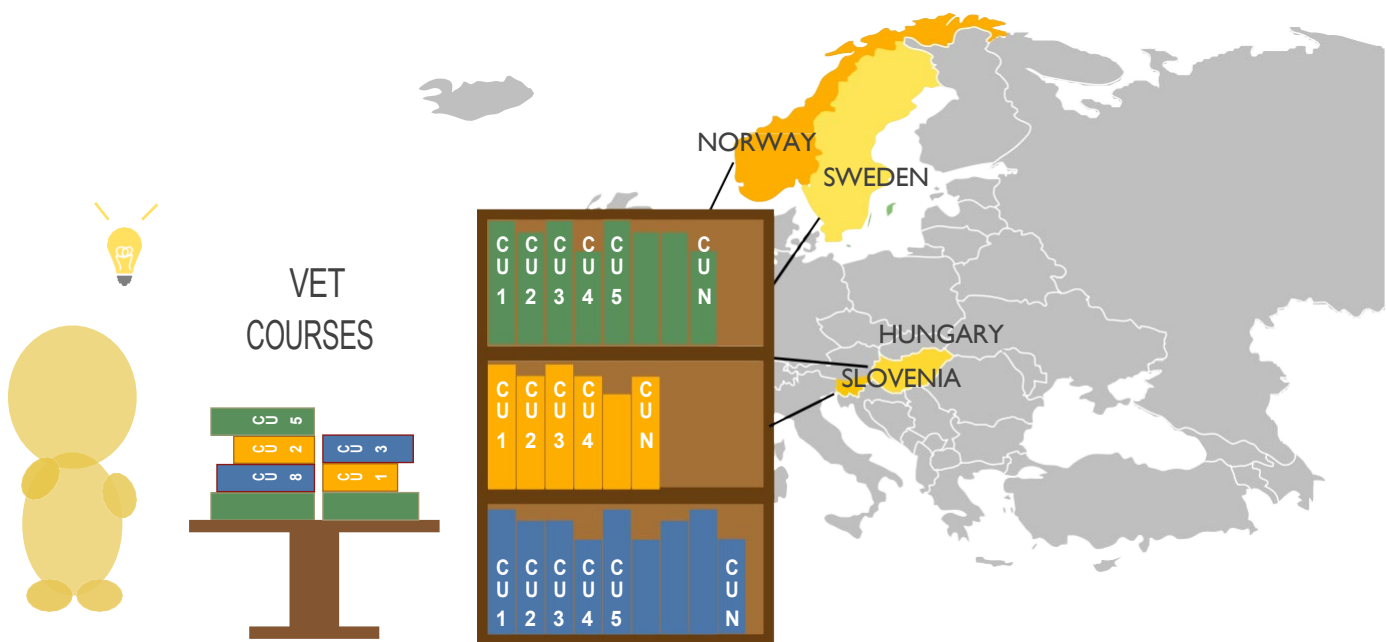
Co-funded by the
Erasmus+ Programme
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Welding Technology: Testing and Quality Assurance for Welding



The course “Welding Technology: Testing and Quality Assurance for Welding” is structured in 5 Competence Units (CUs). Each CU focuses on the various stages in the Quality Assurance along the fabrication process.

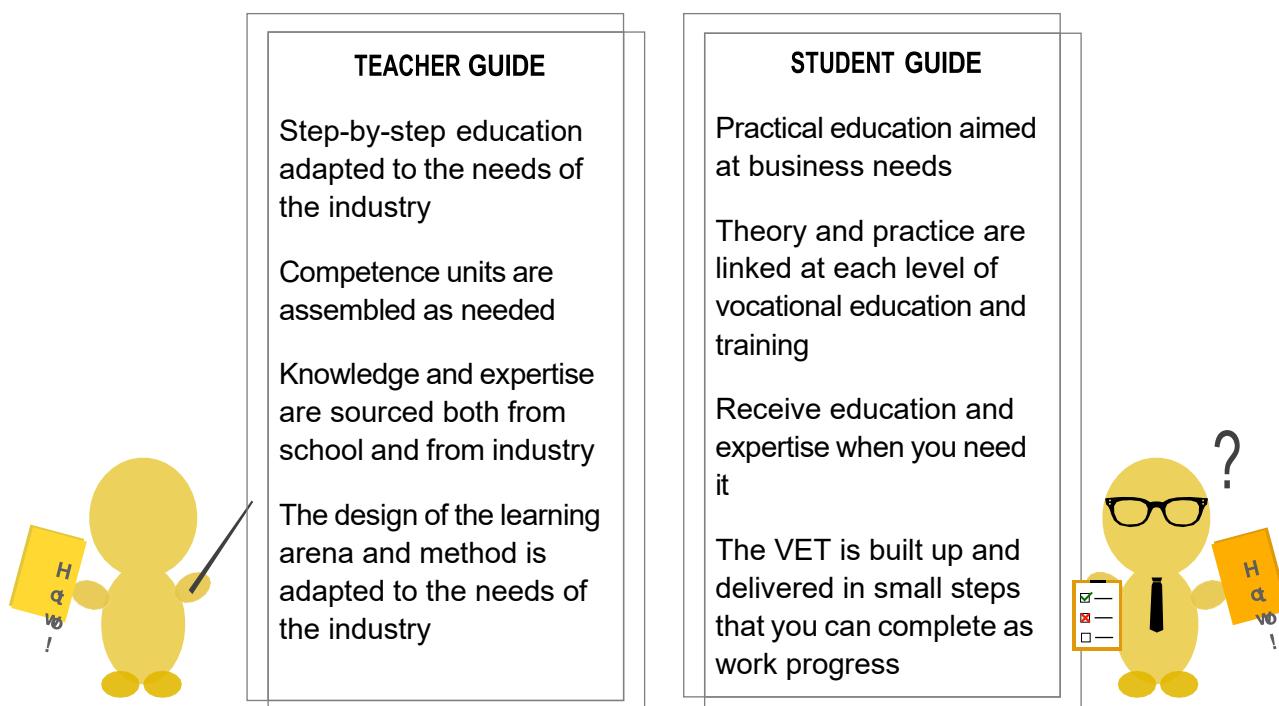
- CU1 – Materials and Processes
- CU2 – Quality control before welding
- CU3 – Welding in practice
- CU4 – Quality control after welding
- CU5 – Lab and examination



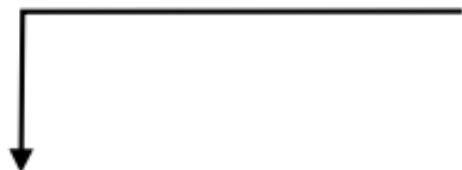
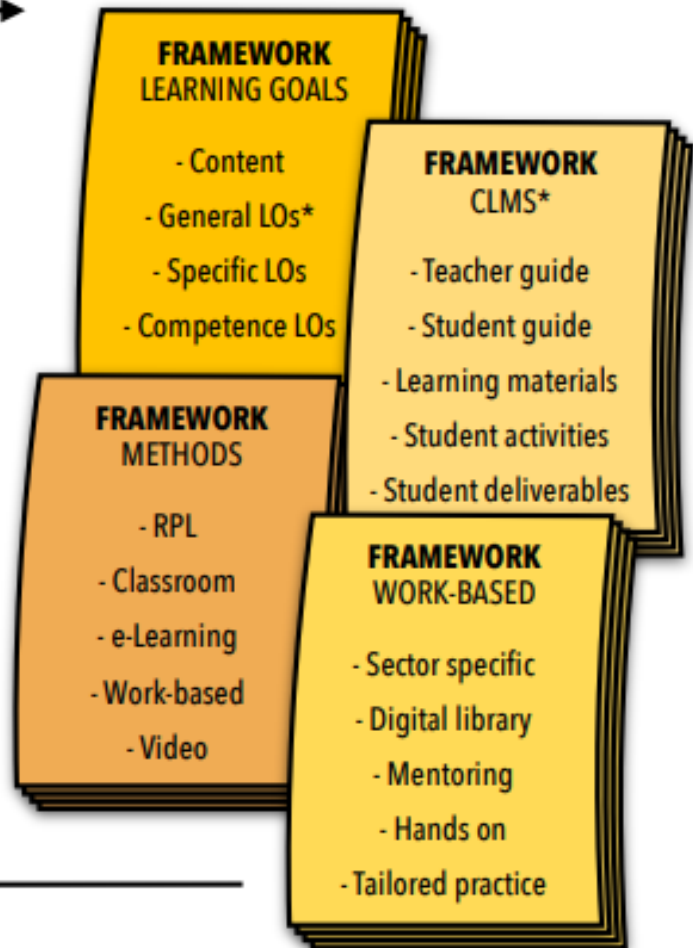
The development of a common competence framework will ease the recognition of qualification equivalencies, assisted by ECVET and shared delivery by VET specialists and industry experts. This is leading to a unitized, modernized delivery system based up on Competence Units (CUs) to be shared nationally and transnationally.

Partners will create links between their vocational education and training activities and national developments by careful negotiation with national stakeholders, ensuring complementarity with proximate ongoing initiatives. BET builds bridges between organizations that can be encouraged to work more creatively with VET providers to amplify and extend the impact of VET, nationally and transnationally within Europe.

New work-based learning pedagogies, digital learning resources and tools will allow each country to create a 'blend' of work-based and alternative methods of VET delivery, to suit its own priorities, resources, national VET systems and stage of EQF 3-5 development.



COURSE LIBRARY



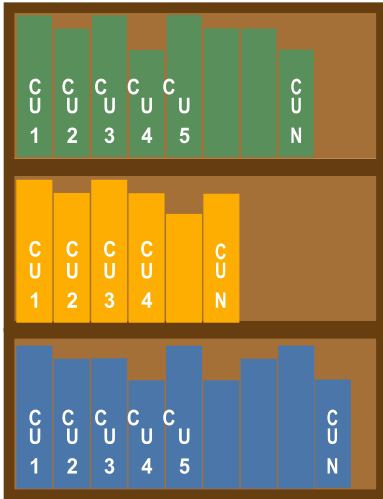
ONE VET COURSE



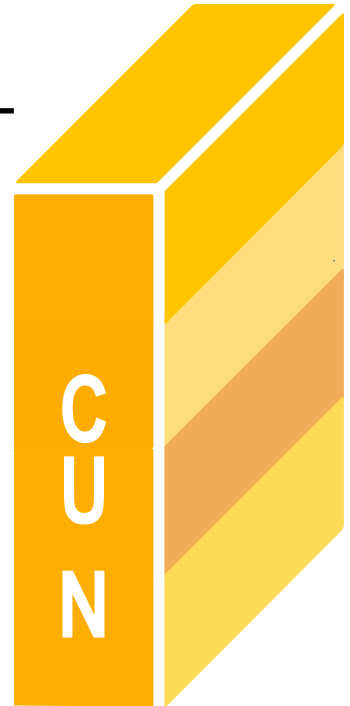
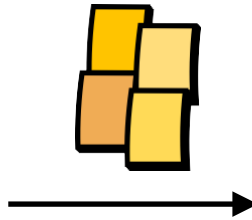
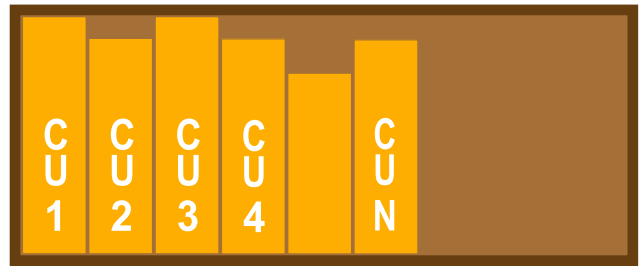
*LOs: Learning Outcomes

*CLMS: Content Learning Management System

COURSE LIBRARY



ONE VET COURSE



FRAMEWORK LEARNING GOALS

- Content
- General LOs*
- Specific LOs
- Competence LOs

FRAMEWORK CLMS*

- Teacher guide
- Student guide
- Learning materials
- Student activities
- Student deliverables

FRAMEWORK METHODS

- RPL
- Classroom
- e-Learning
- Work-based
- Video

FRAMEWORK WORK-BASED

- Sector specific
- Digital library
- Mentoring
- Hands on
- Tailored practice

FRAMEWORK OPTIONAL

- _____
- _____
- _____
- _____
- _____

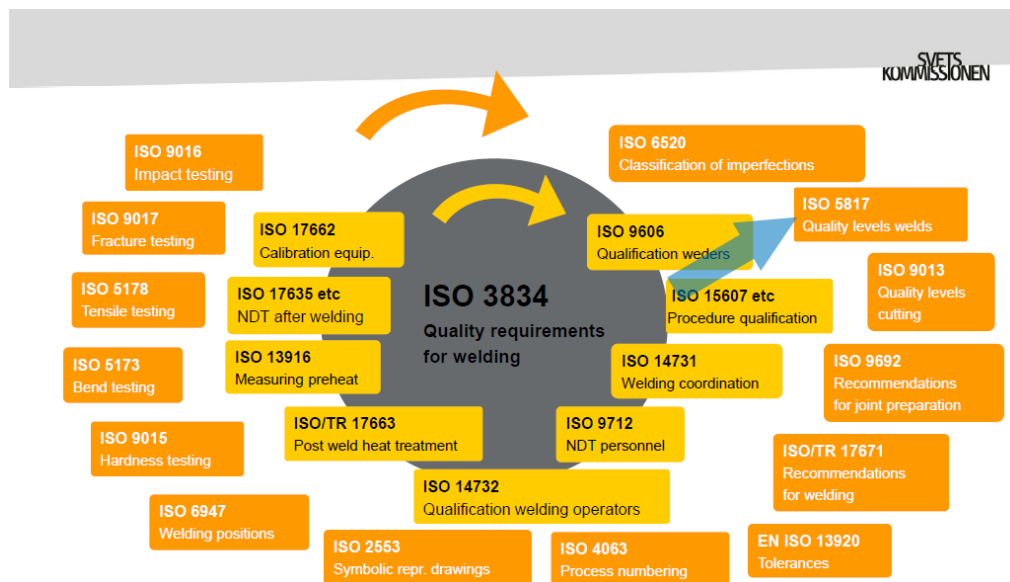
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A Unitized, Modern Delivery System

World Trade Organization (WTO) aims to promote a free and fair global trading system. It is therefore a priority for the EU to ensure the free flow of goods and services within the Union. To achieve this, several guidelines have been drawn up in various commercial sectors.

Within the welding sector, countries are required to base their national regulations on standards produced by organizations like ISO and IEC as much as possible. Quality in welding and welded products is essential, but at the same time, it is a complex puzzle that covers multiple aspects, such as the review of requirements, the qualification of personnel, the preparation of welding procedure specifications and its qualification, the inspection and testing, the handling of welding consumables and equipment maintenance and the non-conformances and corrective actions.



Companies in the Västra Götaland region (Sweden) have identified “Quality in welding” as one of the areas where training is needed among their personnel. That need has been our motivation to develop this course.

Welding Technology: Testing and Quality Assurance for Welding

The course provides an overview of testing and quality assurance in welding. The influence of welding processes, work routines and material selection on the quality of welded products is studied. The course is aimed at those who want to learn more about how to ensure quality in welding or who already have practical experience in the subject but want to develop their theoretical knowledge.

Competence units

The course is structured in 5 Competence Units (CUs). Each CU focuses on the various stages in the Quality Assurance along the fabrication process.

