

EuroMec project

D2.1 Learning Outcome (LOs) Protocols

EQF 4

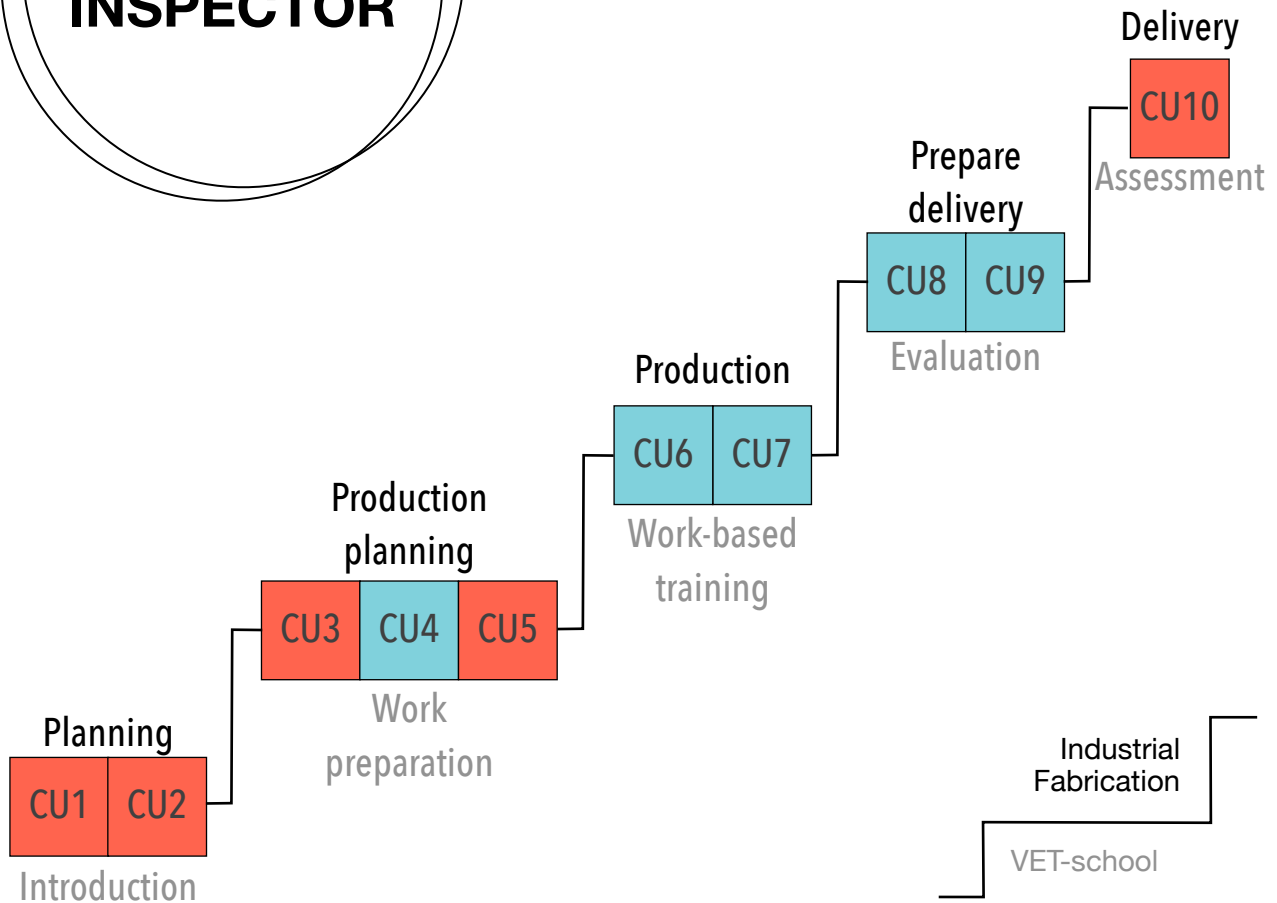
This guideline describes how to structure, organize and start using the 4 course frameworks consisting of *learning goals* (content, general learning outcomes, specific learning outcomes and general competences), *effective usage of digital libraries*, proposed *training methods* and *implementation of work-based training* activities, at the EQF 4 level. 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.



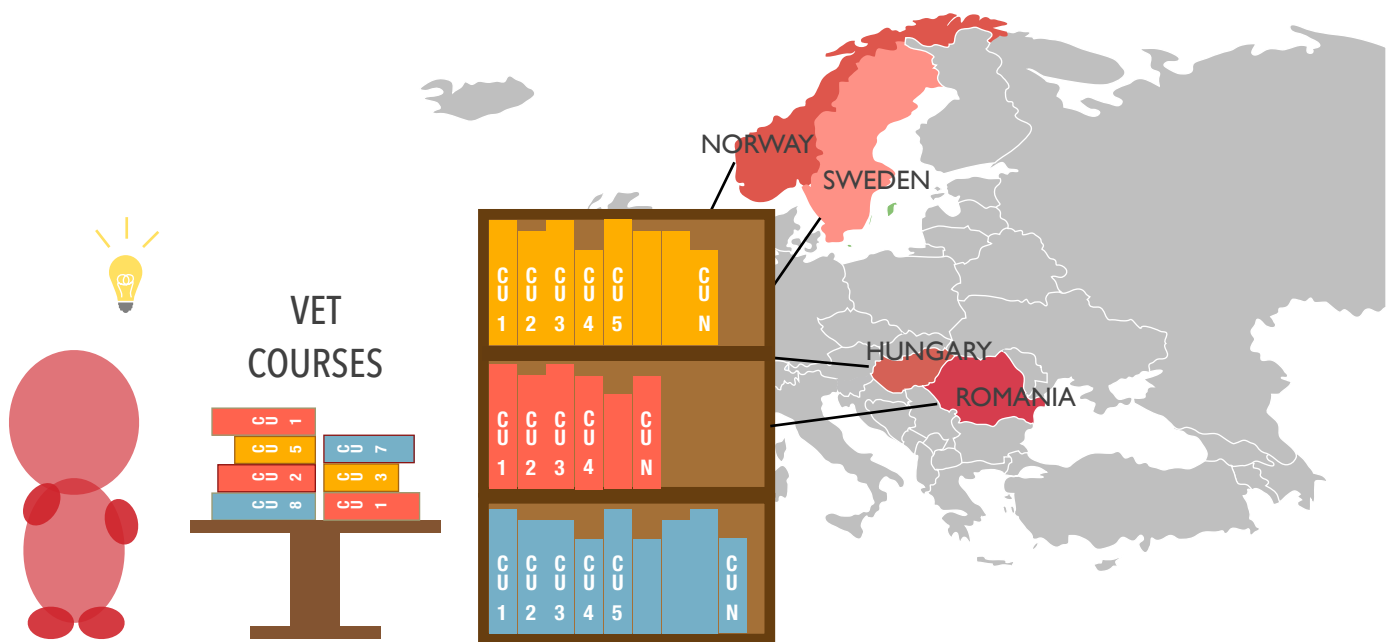
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PED-INSPECTOR



The PED-Inspector is structured in 10 Competence Units (CUs). 5 of the CUs (blue boxes) apply work-based learning where the training follows the fabrication process of a product. Each CU targets various stages in the fabrication process.

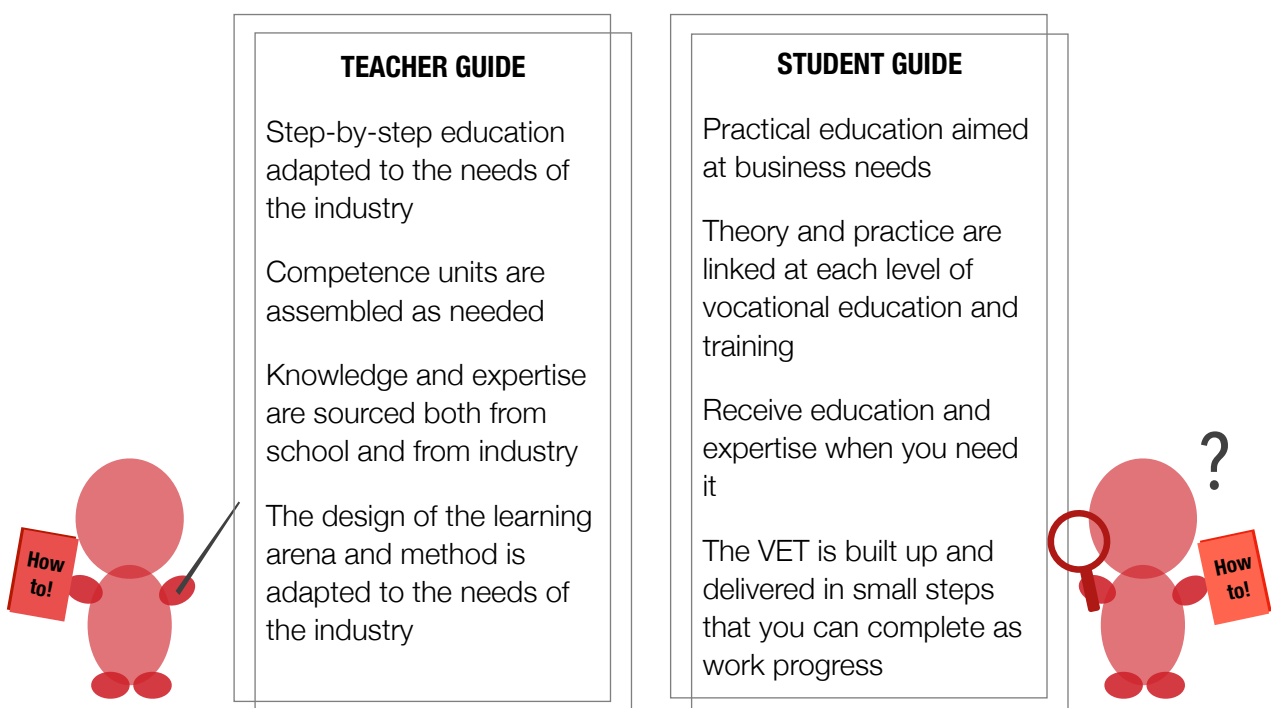
- CU1 - Introduction
- CU2 - Evaluating an inquiry
- CU3 - Design review
- CU4 - Documentation
- CU5 - Economy in welding inspection
- CU6 - Visual inspection and NDT
- CU7 - Destructive testing
- CU8 - Surface protection and dimensional control
- CU9 - Documentation before delivery
- CU10 - Summary and exam



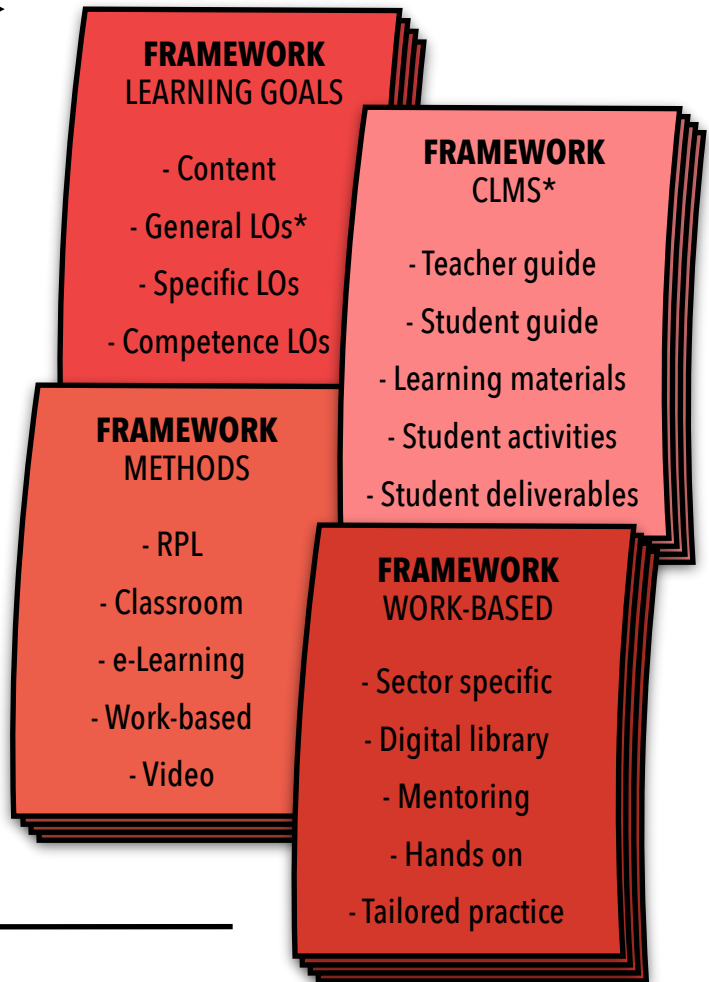
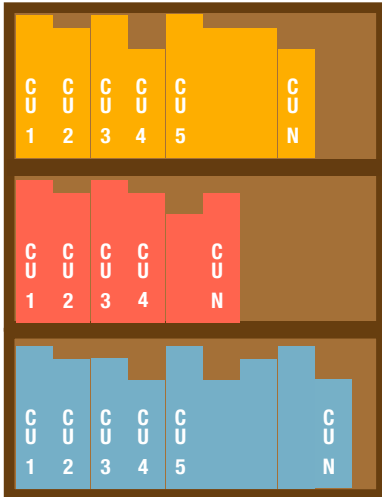
The development of a common competence framework will ease the recognition of qualification equivalencies, assisted by ECVET and shared delivery by VET specialists and industry experts. This is leading to a unitized, modernized delivery system based up on Competence Units (CUs) to be shared nationally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

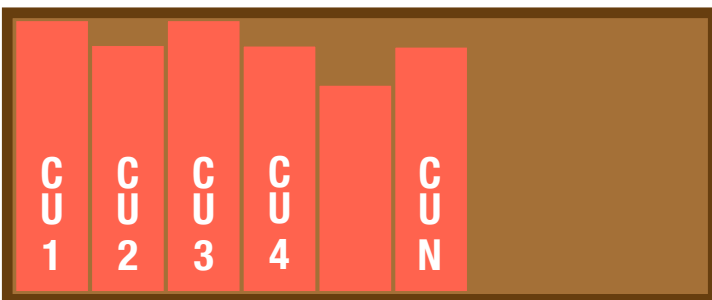
New work-based learning pedagogies, digital learning resources and tools will allow each country to create a ‘blend’ of work-based and alternative methods of VET delivery, to suit its own priorities, resources, national VET systems and stage of EQF 4 development.



COURSE LIBRARY



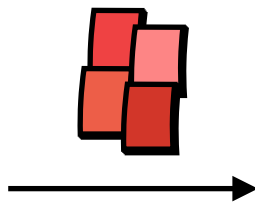
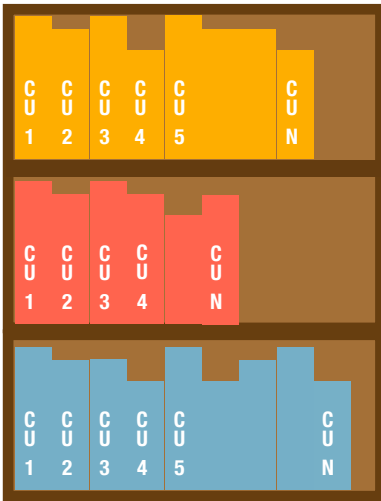
ONE VET COURSE



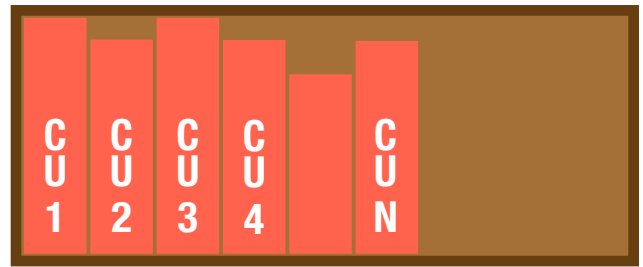
*LOs: Learning Outcomes

*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

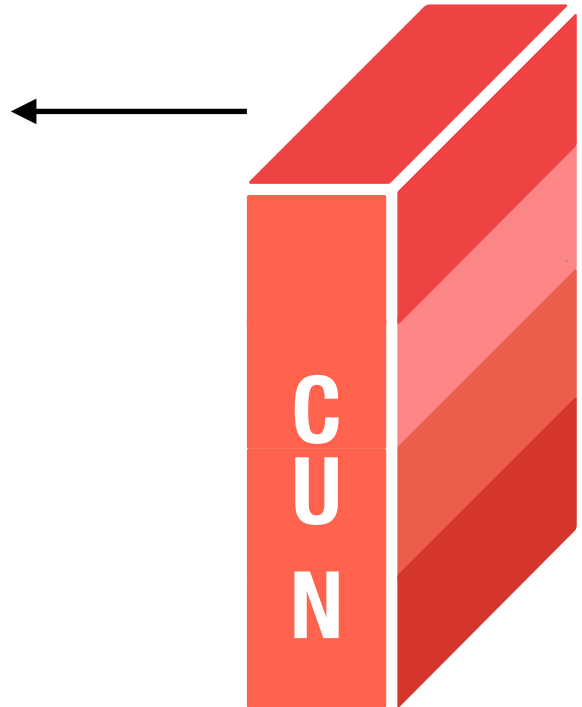
- RPL
- Classroom
- e-Learning
- Work-based
- Video

FRAMEWORK WORK-BASED

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

FRAMEWORK OPTIONAL

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- ---
- ---
- ---
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*LOs: Learning Outcomes

*CLMS: Content Learning Management System

A Unitized, Modern Delivery System

A priority for the EU is 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.

The Pressure Equipment Directive, 2014/68/EU applies to the design, fabrication and conformity assessment of stationary pressure equipment with a maximum allowable pressure greater than 0,5 bar. The Pressure Equipment Directive aims to guarantee free movement of the products in its scope while ensuring a high level of safety and it is supported by a set of PED Guidelines (2014/68/EC) and guidance documents which represent a reference for ensuring consistent application of the Directive.

According to the European Commission (*), a fabricator can only place a product on the EU market when it meets all the applicable requirements. The conformity assessment procedure is carried out before the product can be sold. The European Commission's main objective is to help ensure that unsafe or otherwise non-compliant products do not find their way to the EU market.

What conformity assessment is (*)

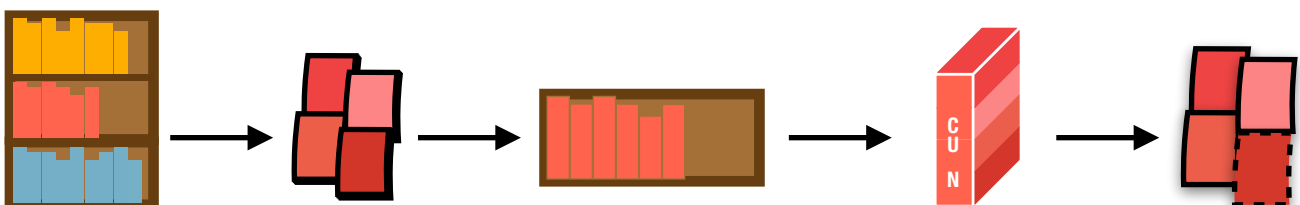
- The conformity of a product is assessed before it is placed on the market
- It needs to demonstrate that all legislative requirements are met
- It includes testing, inspection and certification
- The procedure for each product is specified in the applicable product legislation

Thus, conformity assessment must be undertaken by the fabricator and/or notified body, depending on the category of the equipment, in order to demonstrate that the essential safety requirements are met. The Directive is classified in different categories (ranging from I to IV), according to ascending level of hazard in accordance with Annex II of the Directive. The involvement of a Notified Body is obligatory for equipment of category II or higher. Thus, only for category I products, the fabricator performs the conformity assessment and documents the assessment in his own right.

Once conformity assessment has been completed, and if the equipment or assembly complies with the provision of the Directive, the fabricator is required to affix the CE-marking to each item of pressure equipment or assembly and draw up a Declaration of Conformity.

Notified Body is a semi-official or private technical organization appointed by Member States, either for approval and monitoring of the fabricators' quality assurance system or for direct product inspection. A Notified Body may be appointed for certain products/product categories or for certain modules.

*https://ec.europa.eu/growth/single-market/goods/building-blocks/conformity-assessment_en



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PED-Inspector

The course «PED-Inspector» targets the knowledge and competence requirements that an inspector must have to follow up and document the requirements as specified within PED-Inspector. After completing the course, the inspector shall be able to evaluate the contract and the planning of the fabrication, to document the quality performed. The inspector is responsible for ensuring that the correct documentation is prepared and delivered, so that the company can CE label its products.

Competence units

This course is organized into several competence units. Each unit covers a limited area within the planning and implementation of the fabrication process. The competence unit is a standalone course element that can be delivered when needed. The company can improve their employees' knowledge and expertise on a «pick and mix basis» that apply work-based training practices. The competence units are designed so that they naturally follow a fabrication process, thereby providing flexible and adapted vocational training according to both the needs of the company and their employees.

International diploma

After completing all the competence units, the employees will satisfy the international requirements of a European welding inspector. It is possible to combine this with a final international exam that gives a recognized, international diploma.

