



# ecvetlab

## REPORT

### Review of the course ECo lab technician



ECVET-Lab. Implementation and Validation of the Non-Formal Training on Sustainability for Environmental Testing Laboratories workers 2016-1-ES01-KA202-024977

**novotec**

FUNDACIÓN **equipo humano**



Πανεπιστήμιο Κύπρου  
University of Cyprus



**eurolab**

**MMC**

Mediterranean  
Management Centre



Co-funded by the  
Erasmus+ Programme  
of the European Union

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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## INTRODUCTION

ECVET-Lab is a European project funded by the ERASMUS+ programme of the European Commission. The Project will contribute to the implementation and validation of non-formal training on environmentally sustainable practices for environmental testing laboratory technicians.

The main project objectives include the development of a qualification standard and an online modular training course (based on the standard) targeting environmental testing laboratory technicians.

The aim of the current report is to validate whether the already developed training course is structured in accordance with ECVET principles, in particular, the use of units of learning outcomes.

The report is divided into several sections as follows: the first explains the reference frame used for the validation, the second analyses the different modules of the qualification standard and the training course (in accordance with the reference frame), the third provides general conclusions based on the previous analysis as well as recommendations for improvements regarding the use of units of learning outcomes.

### 1. Reference frame: principles for the design and use of units of learning outcomes

The reference frame used in this report takes into account the Recommendation of the European Parliament and the Council on the establishment of ECVET (2009/C 155/02) which defines a unit of learning outcome as 'a component of a qualification, consisting of a coherent set knowledge, skills and competences that can be assessed and validated'. The following principles regarding the design and use of units of learning outcomes have been considered in the analysis in section 3:

- To be described in legible and understandable terms by referring to the knowledge, skills and competences contained in them.
- To be constructed and organised in a coherent way with regard to the overall qualification.
- To be constructed in a way that enables discrete assessment and validation of learning outcomes contained in the unit. (2009/c 155/02).

## 2. Analysis and conclusions

The content of the online ECVET-lab modular training course has been described in legible and understandable terms. It

consists of three modules whereby each of the modules includes three units of learning outcomes corresponding to different levels of knowledge skills and competences (see table below). For example, the introduction in Module 1 and 3 as well as 'General concepts and awareness' in Module 2 correspond to the basic level of competences required for laboratory technicians to be employed. These competences relate usually to legal requirements concerning environmental practices in laboratories. In comparison, level 2 (good practices) and level 3 (best practices) refer to competences that go beyond the ability of technicians to comply with legal requirements. The latter have been identified based on focus groups interviews with stakeholders.

Although knowledge, skills and competences are not visible from the content of the training course, these have been defined for each level (e.g. introduction, good and best practices) in the qualification standard (which provides the basis for the course). For example, in relation to the basic level of Module 1 (Use of resources and management of air & water discharges) knowledge refers to general principles/policies for sustainable management of water resources, energy etc., the ability to recognise effects of non-efficient use of water and energy.

Of note is that the course focuses on and subsequently assesses knowledge rather than skills and competences as the latter are difficult to teach and assess through online tools.

Module	Level 1	Level 2	Level 3
1. Use of resources and management of air & water discharges	Introduction	Good/best for water energy and raw material consumption Good/best practices for air emissions, wastewater and noise	
2. Management of substances applied in laboratory	General concepts and awareness	Good practices in management of hazardous substances	Best practices in management of hazardous substances
3. Hazardous waste management in laboratory	Introduction	Environmental good practices in laboratories	Best practices on waste management in laboratories

The training course is organised in a constructed and organised way with regard to the qualification standard that has been developed previously by the project team.

In addition to the above-mentioned aspects, the course complies with the principle of flexible learning pathways: depending on one's level of knowledge, skills and competences, potential participants may select this unit or module that is missing without the need to do the whole module or course respectively.