

I01.A3
ECVET
TRAINING PROGRAM
PROFILE



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IO1.A3
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TRAINING PROGRAM
PROFILE



Erasmus+

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Abbreviations

Abbreviation	Name
ECVET	European Credit system for Vocational Education and Training
NQF	National Qualification Framework
EQF	European Qualification Framework
IC	Information and Communications
AR/VR	Augmented Reality and Virtual Reality
3D (Printing)	Three dimensional (3D Printing or Additive manufacturing is a process of making three dimensional solid objects from a digital file)
ICT	Information and Communications Technology
ISCED	International Standard Classification of Education

1. Introduction

ECVET as a Concept

ECVET is a technical framework for the transfer, recognition and, where appropriate, accumulation of individuals' learning outcomes with a view to achieving a qualification. ECVET tools and methodology comprise the description of qualifications in terms of units of learning outcomes with associated points, a transfer and accumulation process and complementary documents such as learning agreements, transcripts of records and ECVET users' guides. (Recommendation of the European Parliament and of the Council)

ECVET terminology

Term in ECVET Recommendation	Definition in ECVET Recommendation
Learning Outcomes	Learning Outcomes means statements of what a learner knows, understands and is able to do on completion of a learning process and which are defined in terms of knowledge, skills and competence.
Assessment of Learning Outcomes	Assessment of Learning Outcomes means methods and processes used to establish the extent to which a learner has in fact attained particular knowledge, skills and competence.
Credit for Learning Outcomes	Credit for Learning Outcomes (credit) means a set of learning outcomes of an individual which have been assessed and which can be accumulated towards a qualification or transferred to other learning programmes or qualifications.
Credit Accumulation	Credit Accumulation: Learning outcomes achieved in an environment in the ECVET system are assessed and transferred, after positive assessment, to another environment. A competent institution in this other environment validates and recognises the learning outcomes as part of the qualification requirements pursued by the person in question. After this, units can be accumulated for the said qualification in accordance with national and regional rules.
Credit Transfer	Credit Transfer is applied to learning outcomes achieved in formal contexts.
Units of Learning Outcomes (unit)	Unit of Learning Outcomes (unit) means a component of a qualification, consisting of a coherent set of knowledge, skills and competence, that can be assessed and validated.
Validation of Learning Outcomes	Validation of learning outcomes means the process of confirming that certain assessed learning outcomes achieved by a learner correspond to specific outcomes which may be required for a unit or a qualification.
ECVET points	ECVET points means a numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the qualification.
Formal learning	Learning which takes place in an organised and structured environment, specifically dedicated to learning, and typically leads to the award of a qualification, usually in the form of a certificate or a diploma; it includes systems of general education, initial vocational training and higher education



Non-formal learning	Learning which takes place through planned activities (in terms of learning objectives, learning time) where some form of learning support is present (e.g. student-teacher relationships); it may cover programmes to impart work skills, adult literacy and basic education for early school leavers; very common cases of non-formal learning include in-company training, through which companies update and improve the skills of their workers such as ICT skills, structured online learning (e.g. by making use of open educational resources), and courses organised by civil society organisations for their members, their target group or the general public.
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1point

2. ECVET training program profile – 1Point MAINTENANCE IN MANUFACTURING

2.1 Profile description

<p>Short description of training objectives</p>	<ul style="list-style-type: none"> - Train participants for identifying the most common problems and offering solutions for efficient production - Improve the ability for approaching to maintenance that strives to achieve perfect production without breakdowns, small stops/small running - Improve participant’s ICT skills including AR/VR technologies - Implement of continuous improvement of production using 1point methodology 					
<p>Relation to the national qualification/education EQF/NQF</p>	<p>EQF 5</p>	<p>Cyprus - NQF 5, 6 and 7 Greece – NQF 4 and 5 Italy – NQF 5 Spain – NQF (ISCED) 5 Slovenia - NQF 5 and 6</p>				
<p>Total ECVET points</p>	<p>2</p>					
<p>Forms and methods of work</p>	<p>On-line innovative and motivative training course using an on-line training platform and self-learning (student has control over the path and pace at which they engage with training content)</p>					
<p>Material conditions for the training</p>	<p>Personal computer with internet access and regular office programs (for trainer and for each participant).</p>					
<p>Assessment of learning outcomes:</p> <p>Evaluation criteria:</p> <p>Methods of evaluation:</p>	<p>Written exam (on-line quiz).</p> <table border="1" data-bbox="810 1518 1385 1630"> <tr> <td>Written exam</td> <td>100%</td> </tr> <tr> <td>Pass criteria for assessment</td> <td>70%</td> </tr> </table> <p>The examination as the attachment of the training course to check how much the participants have learned from the training course.</p>		Written exam	100%	Pass criteria for assessment	70%
Written exam	100%					
Pass criteria for assessment	70%					

2.2 Learning units

LEARNING UNIT 1	MAINTENANCE IN 3D-PRINTING AND INTRODUCTION TO THE USE OF AR/VR TECHNOLOGY IN MAINTENANCE
LEARNING OUTCOMES	Deal and solve ten most common technical maintenance problems in 3D printing; monitor the 3D printing maintenance results according to provided solution and achieve better, productive and effective maintenance of 3D printing machines.
EQF LEVEL	5
ECVET (CREDITS) Points per unit	1
TRAINING COURSE IN HOURS	25-30
COMPETENCES	KNOWLEDGE AND SKILLS
<ul style="list-style-type: none"> - identify, define, understand and solve ten most common technical maintenance problems in 3D printing - monitor the 3D printing maintenance results according to provided solution and achieve better, productive and effective maintenance of 3D printing machines - improve participant's IT skills including AR/VR technologies 	<ul style="list-style-type: none"> - get acquainted with the 10 most common typical problems/defects that occur in the 3D printing process and solutions for their elimination, - inspect the 3D printer and identify the problem/failure in the 3D printing process for timely and effective action - safely eliminate the problem/defect by using the right tools, devices and procedures - plan and carry out regular maintenance of 3D printers/printing devices for optimal operation and efficiency of machines with minimal failure/fault incidence - advise on measures to improve the efficiency of the 3D printing process - know the possibilities of using AR/VR technology in maintenance - ensure the quality of maintenance

LEARNING UNIT 2	LEAN MANUFACTURING AND MAINTENANCE AND INTRODUCTION TO THE USE OF AR/VR TECHNOLOGY IN LEAN MANUFACTURING
LEARNING OUTCOMES	Deal and solve seven most common problems in Lean Manufacturing; monitor the lean results to achieve better, productive and effective production.
EQF LEVEL	5
ECVET (CREDITS) Points per unit	1
TRAINING COURSE IN HOURS	25-30
COMPETENCES	KNOWLEDGE AND SKILLS
<ul style="list-style-type: none"> - apply knowledge of Lean Manufacturing theory to efficient maintenance - identify, define, understand and solve seven most common problems in 	<ul style="list-style-type: none"> - Lean Manufacturing theory-based maintenance planning - inspect the Lean Manufacturing and identify the problem/failure in the process for timely and effective action - safely eliminate the problem/defect by using the right method, equipment and procedures



<p>Lean Manufacturing and Maintenance</p> <ul style="list-style-type: none">- monitor the lean results to achieve better, productive and effective production- improve participant's ICT skills including AR/VR technologies	<ul style="list-style-type: none">- plan and carry out regular maintenance of Lean Manufacturing for optimal operation and efficiency of lean with minimal failure/fault incidence- advise on measures to improve the efficiency of the maintenance process and continues improvement- advise on measures to improve the efficiency of the manufacturing process- know the possibilities of using AR/VR technology in maintenance of Lean Manufacturing- ensure the quality of maintenance
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3. Conclusion

The necessary conditions for ECVET implementation

The ECVET recommendation invites Member States to create the necessary conditions and adopt measures, as appropriate, so that as from 2012 – in accordance with national legislation and practice, and on the basis of trials and testing – it is possible for ECVET to be gradually applied to VET qualifications at all levels of the EQF, and used for the purpose of the transfer, recognition and accumulation of individuals' learning outcomes achieved in formal and, where appropriate, non-formal and informal contexts (European Parliament and Council, 2009). The aim of identifying and developing conditions and measures for the implementation of ECVET is to ensure that VET systems possess the series of technical components (including agreements and templates) required for ECVET. One major condition is the need for ECVET to be embedded within qualifications systems and, more specifically, within national qualifications frameworks. This will significantly affect the extent to which ECVET becomes fully operational. This mainstreaming of ECVET requires an approach tailored to the characteristics and specificities of the education and training system and qualifications framework. Ultimately, ECVET and credit transfer will be seen as a normal feature of European vocational education and training at all qualification levels.

Proposal of implementation of 1Point ECVET profile

1Point ECVET profile is based on recommendations for creating conditions for the implementation of ECVET within different qualifications systems. At this stage, it is in a phase of a proposal for an ECVET training program profile which contains all the necessary elements and arrangements between the project partner countries to allow the profile to be used in national qualifications recognition systems. But in the first place, the aim of the 1Point ECVET PROFILE is to allow the recognition of individuals' learning outcomes achieved in nonformal contexts.