ECT/ECVET Guidelines

DICYSTECH

DICYSTECH:

Digital Training for Cybersecurity Students in Industrial Fields

Author (s): European Digital Learning Network ETS

d·learn
EUROPEAN DIGITAL LEARNING NETWORK ETS

ECT/ECVET Guidelines

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- Coordinator:
  - Politeknika Ikastegia Txorierri – www.txorierri.net
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  - European Digital Learning Network ETS - www.dlearn.eu
  - IDEC – www.idec.gr
  - Instituto Politécnico do Porto - www.isep.ipp.pt
  - Hellenic Mediterranean university - www.hmu.gr

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1. What is an ECTS?

Introduction

The objective of this guide is to provide the necessary information and tools for applying the ECTS system of credits allocation to the courses and training implemented in the context of the DICYSTECH - Digital Training for Cybersecurity Students in Industrial Fields project. Here, the definition of this common framework for credit recognition adopted in the European Union is going to presented. To fully grasp the importance of the ECTS tool, this Guide will also include an introduction to the ECVET scheme, both closely linked for the recognition and validation of valuable learning experiences completed in different European countries. Such introduction will go through the main components of ECVET, highlighting the links with the ECTS when these are relevant.

Definition of ECTS

The European Credit Transfer System, mostly known as ECTS, is a framework system for the accumulation and transfer of credits. It is used by universities and agreed by governments, that makes international education more easily comparable across borders. The European Credit Transfer System - or, more precisely, the European Credit Transfer and Accumulation System - makes studying across the European Higher Education Area much more comparable. A system of credits means one course or module is worth the same at any university. The system helps students' study and live in different European nations during their studies. It also makes studying abroad much easier, as it means universities can compare the classes and courses they offer, so you get credit for your semester or year abroad[1].

The principle of transparency permeates all the phases of the education process: learning, teaching and assessment. The system helps students' study and live in different European nations during their studies. It also makes studying abroad much easier, as it means universities can compare the classes and courses they offer, so you get credit for your semester or year abroad. It has been developed in order to facilitate the planning, delivery and evaluation of learning and study programmes: its application greatly support and facilitate the mobility of students and learners across the European Union thanks to a common credit framework allowing for the smooth recognition of exams, courses and other form of learning experiences in the rest of the Union. It is one of the cornerstones of the European Higher Education Area.

The main components allowing the ECTS to be applied are the Learning Outcomes and Workload. Both are associated to the course to which an amount of ECTS will be allocated. Both concepts are also very relevant for ECVET and EQF, which are going to be presented later on. The first one is defined as follows: what the individual know, understands and is able to do on completion of a

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[1] https://www.study.eu/article/what-is-the-ects-european-credit-transfer-and-accumulation-system

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learning process; the second one instead regards the estimation of the time the individual typically needs to complete all learning activities.

Regarding the application of the ECTS model, crucial importance is recognised to the workload associated to the learning outcome. In fact, the central ratio in the allocation of the credits is the following one:

Full-time workload of an academic year: 60 credits

It ranges between 1500-1800 hours for year

Given these parameters, it is possible to define 1 credit as 25-30 hours of work.

Both ECVET and ECTS work for the harmonization of learning experiences in the European Union and thus facilitating the mobility of many learners regardless of their age, context and qualification they are trying to achieve.

The learning outcomes achieved satisfy the requirements of the programmes the offer, unless it can be proved otherwise. To support this process, a specific set of standardised documents are usually employed, such as the Learning Agreement, the Transcript of Records etc.

2. Introduction to ECVET

The European Credit System for Vocational Education and Training (ECVET) is a technical framework ensuring the smooth transfer, recognition and accumulation of learning outcomes achieved in different countries of the European Union. This process envisages that the students obtain a qualification after the completion and achievement of all the learning outcomes necessary. The general objective of this framework is to make the experience of learning mobility more appealing and overall simpler in the context of lifelong learning.

The European Credit System for Vocational Education and Training (ECVET) is a general instrument of the overall strategic European framework for cooperation in the field of vocational education and training. This system ensures the accumulation and transfer of credits in vocational training (VET). It allows the documentation of knowledge, skills and competences acquired in different European Union countries in vocational education and training. ECVET aims to facilitate the recognition and accumulation of work-related skills and knowledge acquired during a stay in another country. It also aims to improve compatibility between the different vocational education and training systems in Europe. Furthermore, it gives people greater control over their vocational education and training and makes mobility in different countries and learning environments more attractive.

The main principles of ECVET are:

- allows qualifications to be described in terms of transferable and cumulative units of learning outcomes (knowledge, skills and competences) to which credit points are linked;
- facilitates the transfer and accumulation of acquired learning outcomes by people moving from one learning context to another, from one qualification system to another;

- favors a synergy between training institutions through the support it will provide to cooperation between partner organizations, in view of the transfer and accumulation of individual training credits[2].

The framework was established with a Recommendation adopted on June 18th, 2009 by the European Parliament and the Council of the European Union. The document invited European Member States to make the necessary changes in order to create a compatible educational framework allowing the mobility programs to take place in a way that allows students to continue working on their learning process.

It provides certain technical tools that are standardised and thus easily shareable among the countries in order to simplify the process of learning outcomes validation.

The main principles and tools of ECVET are summarised here before more details and provided further below:

- Learning Outcomes
- Units of Learning Outcomes
- ECVET Points
- Credit
- Learning Agreement and Memorandum of Understanding (MoU)

ECVET Units

Qualifications as intended by the ECVET recommendation and then further elaborated by the Working Group in 2017 *should be composed of clearly defined groups of learning outcomes[3]*. The same LOs can be part of different qualifications, which makes the ECVET-based approach to the achievement of different certifications a very flexible tools for setting up innovative learning pathways for trainees.

LOs represent the goal of the transnational mobility to which the ECVET principles apply. By recognising and validating the LOs, the trainees can work on achieving a qualification in a transnational way efficiently, over a certain period of time. To this end, the ECTS as presented the previous sections are compatible with VET qualifications.

ECVET points are assigned to each learning outcomes in a qualification and represent a numerical value for the weight of said LO. They can be assigned also to whole units or qualifications. Similarly, to ECTS, 60 ECVET points are allocated to a full year of formal VET, which is taken as a reference.

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[2] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.cedefop.europa.eu/files/5556_en.pdf

[3] ECVET, *Principles for supporting flexible VET pathways*. Accessible here: https://www.ecvet-secretariat.eu/en/principles-supporting-flexible-vet-pathways Last accessed: February 22nd, 2021 11:21 AM EET.

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Learning Outcomes

A unit of learning outcomes (also called "mobility unit" or "module") is a component of a qualification consisting of a coherent set of knowledge, skills and competence that can be assessed and validated.

This assumes that the units of learning outcomes are structured in a comprehensive and logical way and can be assessed. Units of learning outcomes can be specific to a single qualification or common to several qualifications and can also describe further qualifications which are not part of a formal qualification or curriculum[4].

It describes the result of a learning process and it represents the basic unit for the achievement of a qualification. Upon completion, the learner masters the three components of which the outcome is composed of. The focus is on what one is able to do (learner's perspective) once they have successfully completed all the units composing the once the LO rather than on what is being taught (educator's perspective).

The achievement of a LO entails the recognition of a certain number of ECVET points, an expression in number of the knowledge associated to the unit. Several units make up each qualification: the learner must accumulate all the required units in order to achieve the desired qualification. Such units can be obtained in a country and then recognised and validated in another one thanks to the application of ECVET principles and tools.

Thanks to ECVET it easier for people to get validation and recognition of work-related skills and knowledge acquired in different systems and countries – so that they can count towards vocational qualifications.

Each LO should be described in legible and understandable terms by referring to the knowledge, skills and competences contained in them. The Recommendation on the European Qualifications Framework – EQF provide the necessary definition for the components of the LOs:

Knowledge: the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual.

"The student knows/ is familiar with/ is able to name or describe…"

Skills: the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments).

"The student can/ is able to…"

Competences: the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In

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[4] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://ec.europa.eu/programmes/erasmus-plus/project-result-content/50dfa95a-8150-4a34-9b12-14d0274a9bdd/O4.1-Report_Implementation_of_ECVET__EQF_NQF_principles_in_the_development_of_the_curriculum_for_universities-OUTPUT.pdf

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the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.

"The student is responsible for/ is able to apply/ evaluate…"

The EQF is also used as a reference for defining the levels of the qualification, along with the specific national framework of reference.

In order to clearly define the LO, the Bloom taxonomy provides us with the active verbs listed so far in order to better define the knowledge, skills and competences that the learning programme will offer. A crucial aspect is to have clear the idea of the outcome to be achieved, or the desired results, of the LO. Some examples might be the occupational profile that we are trying to define, its competences and the sector studies.

Given the learners-oriented approach of the ECTS and ECVET frameworks, the learning component must be defined from the point of view of the learners. For this reason, we talk of learning outcomes rather than learning objectives (the intention of the teachers regarding the content to be presented).

A very common tip that helps summarise all the main aspects to be taken into consideration when drafting LOs are the following, whose acronym is **SMART**:

- **Student-centred;**
- **Measurable;**
- **Action-oriented;**
- **Results-driven;**
- **Tailored to specific programs;**

Other important suggestions that are worth keeping in mind are to use a single verb's tense (either future or present), avoid vague expression and make clear deadlines (at the end of the training, the trainee will be able to...). Overall, a module should revolve around 5-7 learning outcomes.

For trying to define the objectives and how the units can fit all together the starting point could be the qualification. Then we move to the definition of the learning outcomes (as introduced in this guide before): in this phase it is crucial to have clear in mind the objectives, the learning methodology and learning outcomes of the overall process, as well as the assessment approach. Once all these aspects are clear, it will be possible to allocate a certain number of ECTS to the unit according to the proportion presented before:

1 credit = 25-30 hours of workload

If the learning methodology to be applied does not respect the usual guidelines of a formal learning approach, and instead it tries to explore other forms of non-formal learning methodology, the calculation of the workload and thus of the ECTS allocated is usually arbitrary.

3. EQF

The European Qualifications Framework (EQF) is a common European reference framework whose purpose is to make qualifications more readable and understandable across different countries and systems. Covering qualifications at all levels and in all sub-systems of education and training, the

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EQF provides a comprehensive overview over qualifications in the 39 European countries currently involved in its implementation[5].

The European Qualification Framework is the result of a long discussion process involving member states, social partners together. EQF is presented as a translation device for comparing qualifications regardless of the system where a qualification was acquired to increase transparency and develop European mobility. The core element of the EQF is a set of eight reference level covering the entire span of qualifications. The EQF reference levels shift the focus away from the traditional approach, which emphasises learning inputs to put focus on learning outcomes.

The core of the EQF is its eight reference levels defined in terms of learning outcomes, i.e. knowledge, skills and autonomy-responsibility. Learning outcomes express what individuals know, understand and are able to do at the end of a learning process. The level increases according to the level of proficiency, level 1 is the lowest and 8 the highest level. Most importantly the EQF is closely linked to national qualifications frameworks, this way it can provide a comprehensive map of all types and levels of qualifications in Europe, which are increasingly accessible through qualification databases. Countries develop national qualifications frameworks (NQFs) to implement the EQF.

Why the EQF is important?

The main purpose of the EQF is to make qualifications more readable and understandable across countries and systems. This is important in supporting cross-border mobility of learners and workers, and lifelong learning across Europe. Cedefop's national qualifications framework (NQF) online tool makes it possible to compare information on NQFs and, for those countries that have finalised their referencing process to the EQF, compare their qualification types. The Europass platform allows searching for qualifications that are part of national qualifications frameworks databases.

EQF implementation

The EQF has been the catalyst for development of comprehensive national qualification frameworks based on learning outcomes. All countries committed to the EQF consider such national frameworks necessary to make their qualifications comparable across sectors and countries.

The EQF has been a source of inspiration for the development of national and regional qualifications frameworks throughout the world. An increasing number of countries and regions are seeking closer links between their qualifications framework and the EQF[6].

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[5] https://europa.eu/europass/en/europass-tools/european-qualifications-framework

[6] https://www.cedefop.europa.eu/en/projects/european-qualifications-framework-eqf

The learning outcomes

The learning outcomes are defined in terms of:

Knowledge: in the context of EQF, knowledge is described as theoretical and/or factual.

Skills: In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).

Responsibility and autonomy: In the context of the EQF responsibility and autonomy is described as the ability of the learner to apply knowledge and skills autonomously and with responsibility.