



# MICRO-CREDENTIALS FOR HIGHER EDUCATION INSTITUTIONS

.....

Approaches developed in the EHEA  
using peer support



Co-funded by  
the European Union

This document was developed within the TPG-LRC Constructing Recognition in the EHEA (TPG-LRC CoRE) project, which aims to support the implementation of the Bologna Process focusing on its key commitment 2 on national legislation and procedures compliant with the Lisbon Recognition Convention in the countries of the Thematic Peer Group B (TPG B).

Within the project, a working group on micro-credentials, composed of CIMEA, the European Universities Association (EUA) and Nuffic, was established to develop a joint document in cooperation with the Thematic Peer Group A on Qualifications Framework (TPG A on QF) and with the Thematic Peer Group C on Quality Assurance (TPG C on QA).

#### **PROJECT PARTNERS**

Italy – CIMEA (coordinator)  
Albania - Prime Minister Office (associated partner)  
Estonia – Education and Youth Board (HARNO)  
France – France Éducation International (FEI)  
Netherlands – Stichting Nuffic (Nuffic)  
Sweden – Swedish Council for Higher Education (UHR)  
European Quality Assurance Register for Higher Education (EQAR)  
European Students' Union (ESU)  
European Universities Association (EUA)

#### **AUTHORS**

##### **TPG-LRC CoRE working group**

*Italy – CIMEA (project coordinator and WG leader)*  
Luca Lantero, Chiara Finocchietti, Elisa Petrucci

*Netherlands – Stichting Nuffic (Nuffic)*  
Merel Eimers, Jenneke Lokhoff, Bas Wegewijs

*European Universities Association (EUA)*  
Helene Peterbauer

##### **TPG A and TPG C working group**

*Latvia – Academic Information Centre (AIC)*  
Baiba Ramina, Gunta Kinta, Ana Tecilazić (external expert)  
*European Association for Quality Assurance in Higher Education (ENQA)*  
Anna Gover, Elena Cîrlan

##### **TPG A and TPG C (with the support of)**

*Belgium – Flemish Ministry of Education and Training*  
*Romania – Ministry of Education*

#### **ACKNOWLEDGEMENTS**

We wish to thank the countries that provided their direct experience with micro-credentials: they contributed to this document with data, information and meaningful insights.

A special thanks goes to the co-chairs and all the members of the three Thematic Peer Groups, who offered their experience and knowledge to improve the document. Our acknowledgment goes also to the external experts for their precious advice and reflection.

Finally, we wish to thank all project partners for their continuous cooperation.

*Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Education and Culture Executive Agency (EACEA). Neither the European Union nor the granting authority can be held responsible for them.*



# MICRO-CREDENTIALS FOR HIGHER EDUCATION INSTITUTIONS

Approaches developed in the EHEA  
using peer support



## / TABLE OF CONTENTS

<b>Introduction</b>	<b>5</b>
<b>01. What is a micro-credential?</b>	<b>9</b>
<b>02. Why offer micro-credentials?</b>	<b>11</b>
<b>03. What type of micro-credential?</b>	<b>13</b>
<b>04. What to take into consideration when defining learning outcomes of a micro-credential?</b>	<b>17</b>
<b>05. What to take into consideration when assigning a Qualifications Framework (QF) level and defining the workload of a micro-credential?</b>	<b>21</b>
<b>06. How to build a micro-credential around the learner?</b>	<b>23</b>
<b>07. How to quality-assure micro-credentials?</b>	<b>27</b>
<b>08. How to support the recognition of micro-credentials?</b>	<b>31</b>
<b>09. How can digital solutions support the portability of micro-credentials?</b>	<b>35</b>
<b>References</b>	<b>39</b>
<b>Annex: Resources</b>	<b>43</b>



## / INTRODUCTION

In the 2020 Rome Ministerial Communiqué the Ministers in charge of Higher Education of the European Higher Education Area (EHEA) asked to “explore how and to what extent these smaller, flexible units, including those leading to micro-credentials, can be defined, developed, implemented and recognised by our institutions using EHEA tools” (Rome Ministerial Communiqué, 2020).

In line with this mandate, this document is intended as an instrument to support higher education institutions (HEIs) in the process of designing, implementing, awarding and recognising quality-assured micro-credentials. It summarises key findings and main elements of consensus around micro-credentials in the EHEA.

In particular, it brings together the results of the work of the three EHEA working structures, the so-called Thematic Peer Groups, which with a peer support approach analysed micro-credentials from the perspective of qualifications frameworks and ECTS (European Credit Transfer and Accumulation System), recognition and the Lisbon Recognition Convention, and quality assurance. The work of these three groups spans the period 2020-2024.<sup>1</sup>

This document, targeted at HEIs as providers of micro-credentials and as bodies responsible for their recognition, is based on the rationale that the provision and recognition of micro-credentials are two sides of the same coin, meaning that designing micro-credentials based on the Bologna tools and supported by existing good practices will also facilitate their recognition. For the scope of this document, micro-credential refers to both the learning path and the qualification, while the definition of the term “micro-credential” is based on the Council Recommendation on micro-credentials (Council of the EU, 2022).

Starting with the main elements of this definition, 9 guiding questions have been identified and framed in the context of international policy documents and existing literature to support HEIs in the process of developing and recognising micro-credentials.

---

<sup>1</sup> Within the EU co-funded project TPG-LRC CoRE - TPG-LRC Constructing Recognition in the EHEA, the TPG B's working group on micro-credentials (CIMEA, Nuffic, EUA) and representatives of the TPG A and the TPG C have cooperated to develop this study.

The definition itself serves as a point of reference to guide the journey from the design to the recognition of a micro-credential through the following questions:

1. What is a micro-credential?
2. Why offer micro-credentials?
3. What type of micro-credential?
  - 3.1. What aspects to consider in terms of stackability?
4. What to take into consideration when defining learning outcomes of a micro-credential?
5. What to take into consideration when assigning a Qualifications Framework (QF) level and defining the workload of a micro-credential?
6. How to build a micro-credential around the learner?
7. How to quality-assure micro-credentials?
8. How to support the recognition of a micro-credential?
9. How can digital solutions support the portability of micro-credentials?

As for the structure of the document, the guiding questions are followed by a collection of key reference documents and other resources available, including policy documents, relevant results of European and international projects and existing networks, included in the Annex of this publication. These resources are divided into different categories to provide a comprehensive overview of what is available on the topic.







## / WHAT IS A MICRO-CREDENTIAL?

As per the Council Recommendation on a European approach to micro-credentials for lifelong learning and employability, “micro-credential means **the record of the learning outcomes** that a learner has acquired following a **small volume of learning**. These **learning outcomes will have been assessed against transparent and clearly defined criteria**. Learning experiences leading to micro-credentials are designed to provide the learner with specific **knowledge, skills and competences that respond to societal, personal, cultural or labour market needs**. Micro-credentials are **owned by the learner**, can be **shared and are portable**. They may be **stand-alone or combined into larger credentials**. They are **underpinned by quality assurance** following agreed standards in the relevant sector or area of activity” (Council of the EU, 2022).



## / WHY OFFER MICRO-CREDENTIALS?

Strategic planning is one of the various factors that contribute to the decision of a HEI to introduce micro-credentials or to improve the institution's provision of these learning experiences.

Among the drivers for implementing micro-credentials, the following elements are indicated by HEIs in the EHEA context:

- / The need to attract different groups of learners.
- / The necessity to support students' access to study programmes and life-long learning paths.
- / The demand of the public and employers for more flexible learning pathways.
- / The necessity to support learners to explore different study fields before applying to a programme.
- / The importance of fostering strong connections between HEIs and industry/relevant stakeholders, along with enhancing attractiveness of HEIs (QUATRA, 2023; IMINQA, 2023a).



## / WHAT TYPE OF MICRO-CREDENTIAL?

There are two main approaches for the creation of micro-credentials:

- / Unbundling existing programmes.
- / Developing stand-alone courses.

The first approach is often considered easier to accommodate stackability paths and useful to support the completion of conventional academic degree programmes. However, unbundling existing programmes may not be an easy task, but requires a complex process to determine which modules of an existing course can be “unbundled” and offered as micro-credentials in the first place. Not all modules may be suitable for unbundling, since they were originally designed to be part of a cohesive programme with a specific, potentially sequential outcome. Furthermore, for each “unbundled module”, there may be a need to adapt teaching approach, mode of delivery, course materials, learning outcomes and student support (IMINQA, 2023).

Stand-alone micro-credentials are usually offered as part of a HEI's lifelong learning provision. This type of micro-credential is considered agile and flexible in the design, delivery, approval and review mechanisms, and can thus easily accommodate the fast-changing needs of society and the labour market. Because of their agile and dynamic design process, it is common for HEIs to develop this type of credential in cooperation with other providers. In some cases, these micro-credentials can be a combination of lifelong learning courses and courses based on existing programmes (IMINQA, 2023a).

### / 3.1 WHAT ASPECTS TO CONSIDER IN TERMS OF STACKABILITY?

“Stackability means the possibility, where relevant, to combine different micro-credentials and build logically upon each other” (Council of the EU, 2022). The possibility to stack micro-credentials is considered as a way to provide learners with flexible learning pathways. The accumulation and combination of micro-credentials presents the option to gather multiple traditional and non-traditional qualifications and credentials to construct a more comprehensive credential or complete qualification. Nonetheless, micro-credentials should be seen as complementary and not alternative to full degrees (MICROBOL, 2022). Another aspect to be considered is the importance of providing learners with clear information about which micro-credentials can stack upon each other and in what combination.

In terms of recognition, it is easier to recognise micro-credentials within the same institution or when there is a partnership agreement between institutions. Also, it is important to consider whether it is possible for the receiving institution to identify how the micro-credential corresponds to one of its own courses.







## / WHAT TO TAKE INTO CONSIDERATION WHEN DEFINING LEARNING OUTCOMES OF A MICRO-CREDENTIAL?

Learning outcomes state what a learner is expected to know and to be able to do and understand having completed a learning experience. By shifting the attention from input factors (i.e., workload and contents, etc.) to output factors (i.e., acquired competences and skills), a clear definition of learning outcomes can make a difference to the learner, the teacher, and the assessor. In order to make any difference, though, it is fundamental to use learning outcomes as a point of reference from the initial design to the final assessment. In this way, they can support learners in the decision to enrol in a specific course, as well as in the learning and assessment process clarifying what to expect from and after completing a learning experience. For the teacher, learning outcomes are crucial to plan teaching and learning based on knowledge, skills and competences that a learner should acquire. For the assessor, learning outcomes help with formative assessment throughout the learning process (Cedefop, 2022).

Considering the variety of micro-credentials in terms of features, size, name, duration, and assessment methods, in line with the definition adopted in this document and following the MICROBOL evidence on the state of play of micro-credentials in the EHEA, learning outcomes are also the basis for creating learning paths and qualifications that are comparable and compatible while still maintaining their intrinsic diversity (MICROBOL, 2021).

Despite the high relevance of learning outcomes, the analysis of the working groups contributing to this publication has shown that learning outcomes are often still missing in the description of the learning offer, whereas information on content descriptions or syllabus is more commonly available. When learning outcomes are included in the description of micro-credentials, their level of detail, or even the taxonomy varies substantially as well as the focus on theoretical knowledge or practical skills. While this diversity may reflect the different purposes and interests encompassed by the variety of micro-credentials, it is fundamental to maintain consistency between descriptions of knowledge, skills and competences as well as writing learning outcomes that are comparable and understandable in different contexts.

There are not yet any recommendations on the number of learning outcomes to be assigned to a micro-credential, however the ECTS user's guide, while providing advice on learning outcomes on full degrees only, can be seen as a general reference also for micro-credentials.

One additional consideration should be made in relation to those micro-credentials that aim to enhance permeability between academia and the labour market. These micro-credentials need learning outcomes statements to capture the needs of industry and employers. Indeed, findings from the studies conducted in the EHEA context point to one potential difficulty in the cooperation with alternative providers which is defining learning outcomes, since HEIs tend to formulate more general skills and competences, as opposed to alternative providers, which focus on very specific ones. Furthermore, the language used by HEIs might not always be easily understood outside the HE sector. A fundamental step to overcome these challenges is to cooperate with other actors and with the labour market to also determine their needs.





## / WHAT TO TAKE INTO CONSIDERATION WHEN ASSIGNING A QUALIFICATIONS FRAMEWORK (QF) LEVEL AND DEFINING THE WORKLOAD OF A MICRO-CREDENTIAL?

QF levels enhance the transparency of the achieved level of skills and knowledge and thus facilitate the recognition of micro-credentials. The MICROBOL common framework for micro-credentials in the EHEA concluded that micro-credentials should be included in the National Qualifications Framework (NQF), whenever possible, and that the decision to include them needs to be made at a national level (MICROBOL, 2022). In some cases, it may, however, be difficult to ascertain to which level a specific micro-credential should be assigned. For example, a micro-credential might provide competences that are normally part of a Bachelor level in the specific subject area while also being appropriate for a Master level programme in another subject area. In such cases, an option is to identify the level that could be allocated to the majority of learning outcomes or use the average of learning outcome levels (MICROBOL, 2022). Another point to consider is the necessity of providing clear information to learners, explaining that while a level has been assigned to a micro-credential, the certificate awarded should not be mistaken for a full degree giving access to subsequent levels.

The workload of a micro-credential should generally be defined in ECTS credits (European Commission, 2015). ECTS credits comprise two elements: learning outcomes and volume of learning, with the latter being understood as the amount of time a learner would need to acquire competences (MICROBOL, 2022).

Currently, no specific credit range has been set for micro-credentials. In the MICROBOL common framework for micro-credentials, the possible credit range is indicated between 1 and 59, even though the document also states that most micro-credentials tend to have a volume of 1 to 15 credits.





## / HOW TO BUILD A MICRO-CREDENTIAL AROUND THE LEARNER?

Learners may have diverse backgrounds, profiles, ages, experiences, and knowledge levels. These learners can be broadly categorised as either enrolled students (those already participating in a formal study programme) or lifelong learners (individuals engaging in micro-credentials primarily for upskilling, reskilling, or gaining access to higher education). The profile of the targeted learners needs to be taken into careful consideration when designing micro-credentials because, as underlined in the EC definition, these smaller units of learning require learner-centric education approaches. Additional considerations may extend to the affordability of such courses and available funding opportunities for the learners. Not all micro-credentials can serve every purpose or be designed in a uniform manner, thus it is essential to develop a clear understanding of the target group in advance and design the micro-credential accordingly.

This becomes especially pertinent when striving to include learners from diverse social backgrounds (IMINQA, 2023). Data from the OECD Survey of Adult Skills, for example, shows that adults (ages 25-54) with higher income and holding a higher education degree are more likely to participate in lifelong learning activities and continuous training than their counterparts with contrasting characteristics (Kato, Galán-Muros and Weko, 2020). Similar outcomes emerged from other datasets, such as the European Union (EU)'s Adult Education Survey and Labour Force Survey (OECD, 2021).

From the very beginning, the learner should be enabled to take an informed decision on whether to enrol for a micro-credential. This aspect gains particular significance since flexible learning experiences may be socially exclusive for people who do not have competences or guidance to access them (Orr et al., 2020).

In the enrolment phase, the learner should thus have access to accurate information related to the level of commitment required for the course (including in terms of time, effort and potential prerequisites), the learning outcomes (i.e. the skills and competences acquired upon completion of the course), learning modalities. Moreover, it is equally important to provide learners with information and guidance on what they will be able to do with the completed micro-credential, why it is important to acquire such skills and competences, on the potential impact of the micro-credential on their learning pathways or professional life (Rossiter and Tynan, 2019) and how it will be recognised. In order to be learner-centric, the provider should also make sure that resources are in place (including access to literature, support systems, etc.). Finally, learner feedback offers valuable insights into verifying the quality of learning and teaching, as well as help to assess the extent to which the micro-credential meets its intended purpose.





## / HOW TO QUALITY-ASSURE MICRO-CREDENTIALS?

Primary responsibility for quality assurance lies with HEIs through their internal QA processes. Generally, the quality assurance of micro-credentials is encompassed under an HEI's regular QA activities. External QA should thus focus on reviewing the fitness-for-purpose of the institutional approach to micro-credentials to avoid overburdening HEIs. In almost all EHEA countries the approach to external quality assurance is a combination of institutional and programme-based evaluation (ENQA, 2023). In both cases, quality assurance of micro-credentials can be incorporated in the existing processes, rather than creating new ones specifically for micro-credentials, in order to ensure the external quality assurance remains proportionate.

Internal quality assurance processes for higher education provision, including micro-credentials, must adhere to the standards outlined in the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), which are usually incorporated in the relevant national criteria. The key criteria for internal quality assurance that are highlighted as having particular relevance for micro-credentials are well-defined learning outcomes, transparent assessment methods and information transparency (IMINQA, 2023a).

Furthermore, internal quality assurance should take into account that each micro-credential is characterised by specific elements, including duration, load of study, partnership for delivery, competences of teachers, learning and teaching approaches, access to resources and procedures for accessing and assessing it (IMINQA, 2023b).

Taking into consideration these elements may require distinct methodologies and schedules for various quality assurance procedures, including collecting and evaluating feedback, reassessing and adjusting policies, and involving stakeholders.

Some additional considerations are related to both micro-credentials that are offered as part of an existing programme and the ones conceived as standalone courses.

Referring to the former, HEIs are encouraged to consider whether specific checks are needed regarding curriculum design and teaching approaches in order to ensure the appreciation of learner diversity and the relevance of the micro-credential when taken out of the context of a broader programme. As for standalone micro-credentials, they are often covered by internal QA of lifelong learning. The set of reflective questions developed in the context of the IMINQA project suggest relying on existing quality assurance procedures that can be adapted, if necessary, to avoid unnecessary burden (IMINQA, 2023b).







## / HOW TO SUPPORT THE RECOGNITION OF MICRO-CREDENTIALS?

The key elements to support fast and fair recognition of micro-credentials are transparency and completeness of information provided. This is crucial during the entire lifecycle of the micro-credentials, from the input phase, i.e., information on access to and enrolment in the higher education institution and the output phase, i.e., during the awarding of qualifications (TPG-LRC, 2021), and at all levels: institutional (information offered by the awarding institution), national (for example within a national catalogue/register) and international (MICROBOL, 2022). If the role of information provision is key for all qualifications, it is even more crucial for micro-credentials, for which a lack of common set and standard information is registered.

The main reference regarding the information that should be provided is contained in the EU Council recommendation on micro-credentials, that lists the following mandatory standard elements:

- / Identification of the learner.
- / Title of the micro-credential.
- / Country(ies)/Region(s) of the issuing body.
- / Awarding body(ies).
- / Date of issue.
- / Learning outcomes.
- / Notional workload needed to achieve the learning outcomes (in ECTS credits, where possible).
- / Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF, QF-EHEA), if applicable.
- / Type of assessment.
- / Form of participation in the learning activity.
- / Type of quality assurance used to underpin the micro-credential.

In addition, there is also a list of optional elements, such as the prerequisites needed to enrol in the learning activity (i.e. access requirements), and the integration/stackability options (i.e. if the micro-credential is stand-alone, if it is part of a bigger programme, if it is stackable with another credential). While these points are considered optional, it would be relevant to provide information if and to what extent the micro-credential can be recognised within the same institution or by another institution/provider in the framework of an agreement/partnership, how many credits can be recognized and in which study programmes. The information can be provided on the certificate itself, in additional documentation attached to the micro-credential, or on the awarding institution website. Regardless of the format in which the information is provided, it should be transparent, reliable, easily accessible to the learner and to the general public, also in a historical perspective (since a considerable amount of time may pass between the award of a qualification and its recognition). Evidence shows that the presence of common descriptors for micro-credentials in online portals and other information systems is critical to enable learners to make structured comparison between programmes but also supporting recognition between academic and training providers (OECD, 2023).

According to the transparency and completeness of information provided, recognition of a micro-credential is possible with a two-track approach (MICROBOL, 2022):

- / if all the standard elements are properly displayed, it is possible to assess micro-credentials in line with the principles of the Lisbon Recognition Convention (LRC), the international Convention regulating recognition of qualifications in the European region (Council of Europe and UNESCO, 1997).
- / If these elements are not transparently recorded in the micro-credential, recognition is still possible, by using a Recognition of Prior Learning (RPL) procedure, i.e. the validation of learning outcomes, whether from formal education or non-formal or informal learning, acquired before requesting validation (ECTS user guide, 2015). This procedure should be fit-for-purpose from the point of view of HEIs and learners (MICROBOL, 2022).

Support to understand the level of transparency and of completeness of information, and thus the approach to follow, comes from the methodology developed in the framework of the E-evaluate project (Nuffic, 2022).

This methodology investigates seven criteria to check the robustness of information:

1. Quality of the course
2. Verification of the certificate
3. Level of the course
4. Learning outcomes
5. Workload

6. The way study results are tested

7. Identification of the participant.

The E-evaluate online tool called “Micro-evaluator” is an instrument to assess micro-credentials against these 7 criteria. The tools can thus be used not only in the recognition process but also to self-assess information of the micro-credential offered by the institution<sup>2</sup>.

---

<sup>2</sup> Micro-evaluator, <https://www.nuffic.nl/en/subjects/recognition-projects/the-micro-evaluator>.



## / HOW CAN DIGITAL SOLUTIONS SUPPORT THE PORTABILITY OF MICRO-CREDENTIALS?

Micro-credentials can be issued in a digital format and then sent to the holder, they can be issued online, downloaded from a platform, they can be digitally signed or issued using blockchain technology. The authenticity of a credential can be verified through online databases, or by contacting the awarding institution.

Indeed, one of the elements included in the EU definition of micro-credentials is “portability”, meaning that the holder of a micro-credential should be able to store it in a platform of their preference and share it with a selected party, who should be able to understand the content of the micro-credential and verify its authenticity (Council of the EU, 2022).

Digital credentials can facilitate portability, transparency of information and verification of authenticity, thus also supporting their recognition (MICROBOL, 2022). Digital tools can support an HEI in the entire process of managing and issuing micro-credentials as part of a broader digitalisation strategy, thus responding to the internal and external needs of the institution. When using digital tools, HEIs should however ensure that their approach is in line with European and international standards, such as for privacy and data protection. Interoperability is a key principle to ensure efficient and trusted digital credential sharing across different institutions, organizations, and jurisdictions.

At the European level, there are several initiatives aimed at developing interoperable solutions to support:

- / Agreed criteria for digitalisation of data.
- / Secure, transparent and trusted data provision.
- / Platforms of credential sharing.

An example related to interoperable solutions to provide data in a secure and transparent way is the Database of External Quality Assurance Results (DEQAR). The database was created in 2018 to enhance access to quality assurance reports and decisions on higher education institutions/programmes externally reviewed against the ESG, by an EQAR-registered quality assurance agency. DEQAR currently<sup>3</sup> contains around 97,000 reports covering almost 4,000 institutions and programmes. One of the latest developments of the database is the inclusion of information on micro-credentials awarded by both HEIs and alternative providers<sup>4</sup>.

In terms of platforms for credential sharing, the European Learning Model<sup>5</sup> aims to establish a unified vocabulary for learning in Europe to enhance recognition and trust in qualifications and digital credentials.

Another example of platforms developed for credential sharing is the European Blockchain Service Infrastructure (EBSI)<sup>6</sup>. With this platform, the EU member states, and the European Commission aim to deliver EU-wide cross-border public services using blockchain technology.

---

<sup>3</sup> As of March 2024.

<sup>4</sup> In the database, alternative providers are defined as entities that provide learning opportunities at HE level, but do not have full degree awarding powers (forthcoming).

<sup>5</sup> Further information on the European Learning Model available at: <https://europa.eu/europass/it/news/launch-european-learning-model-data-model-browser>.

<sup>6</sup> Further information on EBSI available at: <https://ec.europa.eu/digital-building-blocks/sites/display/EBSI/Home>.







## / REFERENCES

Cedefop (2022). *Defining, writing and applying learning outcomes: a European handbook - second edition*. Luxembourg: Publications Office. <http://data.europa.eu/doi/10.2801/703079>.

Council of Europe, UNESCO (1997). *Convention on the Recognition of Qualifications concerning Higher Education in the European Region*. <https://rm.coe.int/168007f2c7>.

Council of the European Union (2022). *Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability*. [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C\\_.2022.243.01.0010.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2022.243.01.0010.01.ENG).

ENQA (2023). *Quality Assurance of Micro-Credentials: Expectations within the Context of the Standards and Guidelines for Quality Assurance in the European Higher Education Area*. <https://www.enqa.eu/wp-content/uploads/ENQA-micro-credentials-report.pdf>.

European Commission, Directorate-General for Education, Youth, Sport and Culture (2015). *ECTS users' guide 2015*, Publications Office of the European Union. <https://data.europa.eu/doi/10.2766/87192>.

IMINQA (2023a). *Approaches to Quality Assurance of Micro-credentials. A report on policies and practices to assure the quality of micro-credentials in the European Higher Education Area*. [https://ehea.info/Upload/IMINQA\\_MC\\_report\\_Approaches\\_to\\_Quality\\_Assurance\\_of\\_Micro\\_credentials.pdf](https://ehea.info/Upload/IMINQA_MC_report_Approaches_to_Quality_Assurance_of_Micro_credentials.pdf).

IMINQA (2023b). *Quality assurance of micro-credentials: Reflective questions for internal and external quality assurance*.

[https://www.enqa.eu/wp-content/uploads/QA-of-MCs\\_Reflective-Qus-for-IQA-and-EQA.pdf](https://www.enqa.eu/wp-content/uploads/QA-of-MCs_Reflective-Qus-for-IQA-and-EQA.pdf).

Kato, S., Galán-Muros, V., Weko, T. (2020). *The emergence of alternative credentials*, OECD Education working papers, No. 216, OECD Publishing, Paris.

[https://www.oecd-ilibrary.org/education/the-emergence-of-alternative-credentials\\_b741f39e-en](https://www.oecd-ilibrary.org/education/the-emergence-of-alternative-credentials_b741f39e-en).

MICROBOL (2022). *Micro-credentials linked to the Bologna Key Commitments. Common Framework for Micro-credentials in the EHEA*. [https://microcredentials.eu/wp-content/uploads/sites/20/2022/03/Micro-credentials\\_Framework\\_final-1.pdf](https://microcredentials.eu/wp-content/uploads/sites/20/2022/03/Micro-credentials_Framework_final-1.pdf).

MICROBOL (2021). *Micro-credentials and Bologna Key Commitments. State of play in the European Higher Education Area*. [https://microcredentials.eu/wp-content/uploads/sites/20/2021/02/Microbol\\_State-of-play-of-MCs-in-the-EHEA.pdf](https://microcredentials.eu/wp-content/uploads/sites/20/2021/02/Microbol_State-of-play-of-MCs-in-the-EHEA.pdf).

Nuffic (2022). *The Rise and Recognition of Micro-credentials. Stacking Modules and the Future of the Qualification*. <https://www.nuffic.nl/sites/default/files/2022-03/The%20rise%20and%20recognition%20of%20micro-credentials.pdf>.

OECD (2023). *Public policies for effective micro-credential learning, OECD Education Policy Perspectives*. No. 85, OECD Publishing, Paris. <https://doi.org/10.1787/a41f148b-en>.

OECD (2021). *Micro-credential innovations in higher education: Who, What and Why?*, OECD Education Policy Perspectives. No. 39, OECD Publishing, Paris. <https://doi.org/10.1787/f14ef041-en>.

Orr, D., Luebcke, M., Schmidt, J. P. Ebner, M., Wannemacher, K., Ebner Mart., Dohmen, D. (2020). *Higher Education Landscape 2030: A Trend Analysis Based on the AHEAD International Horizon Scanning*. Springer, Cham. <https://doi.org/10.1007/978-3-030-44897-4>.

QUATRA (2023). *TPG A Recommendations and Guidelines on micro-credentials*. [https://ehea.info/Immagini/QUATRA\\_-\\_TPG\\_A\\_recommendations\\_on\\_micro-credentials\\_09.11.2023\\_.pdf](https://ehea.info/Immagini/QUATRA_-_TPG_A_recommendations_on_micro-credentials_09.11.2023_.pdf).

Rome Ministerial Communiqué (2020).

[https://www.ehea.info/Upload/Rome\\_Ministerial\\_Communique.pdf](https://www.ehea.info/Upload/Rome_Ministerial_Communique.pdf).

Rossiter, D., Tynan, B. (2019). *Designing and implementing Micro-Credentials: a guide for practitioners*. Commonwealth of Learning.  
<https://oasis.col.org/items/e2d0be25-cbbb-441f-b431-42f74f715532>.

TPG-LRC (2021). *Information provision on recognition of qualifications. A practical guide for higher education institutions*.  
[https://www.cimea.it/Upload/Documenti/52\\_Brochure\\_information\\_provision\\_A4.pdf](https://www.cimea.it/Upload/Documenti/52_Brochure_information_provision_A4.pdf).



## / ANNEX: RESOURCES

### / MICRO-CREDENTIALS BEYOND HIGHER EDUCATION

- / Cedefop (2023). *Microcredentials for labour market education and training: microcredentials and evolving qualifications systems*. Luxembourg: Publications Office. Cedefop research paper, No 89. <http://data.europa.eu/doi/10.2801/566352>.
- / Cedefop (2023). *Microcredentials for labour market education and training: the added value for end users*. Publications Office of the European Union. Cedefop research paper. <https://data.europa.eu/doi/10.2801/141643>.
- / Cedefop (2022). *Microcredentials for labour market education and training: first look at mapping microcredentials in European labour-market-related education, training and learning: take-up, characteristics and functions*. Luxembourg: Publications Office. Cedefop research paper, No 87. <https://data.europa.eu/doi/10.2801/351271>.
- / Cedefop (2017). *Defining, writing and applying learning outcomes: a European handbook*. Luxembourg: Publications Office. <http://dx.doi.org/10.2801/566770>.
- / European Training Foundation (2023). *Guide to design, issue and recognise micro-credentials*. <https://www.etf.europa.eu/sites/default/files/2023-05/Micro-Credential%20Guidelines%20Final%20Delivery.pdf>.

## / OECD

- / OECD (2023). *Micro-credentials for lifelong learning and employability: Uses and possibilities*, OECD Education Policy Perspectives. No. 66, OECD Publishing, Paris.  
<https://doi.org/10.1787/9c4b7b68-en>.
- / OECD (2023). *Public policies for effective micro-credential learning*. OECD Education Policy Perspectives. No. 85, OECD Publishing, Paris. <https://doi.org/10.1787/a41f148b-en>.
- / OECD (2021). *Micro-credential innovations in higher education: Who, What and Why?* OECD Education Policy Perspectives. No. 39, OECD Publishing, Paris.  
<https://doi.org/10.1787/f14ef041-en>.
- / OECD (2021). *Quality and value of micro-credentials in higher education: Preparing for the future*, OECD Education Policy Perspectives. No. 40, OECD Publishing, Paris.  
<https://doi.org/10.1787/9c4ad26d-en>.

## / POLICY DOCUMENTS – EHEA

- / Rome Ministerial Communiqué (2020).  
[https://www.ehea.info/Upload/Rome\\_Ministerial\\_Communique.pdf](https://www.ehea.info/Upload/Rome_Ministerial_Communique.pdf)

## / POLICY DOCUMENTS – EU

- / Council of the European Union (2022). *Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability*.  
[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C\\_.2022.243.01.0010.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2022.243.01.0010.01.ENG).
- / European Commission (2020). *A European approach to micro-credentials. Output of the micro-credentials higher education consultation group: final report*. <https://op.europa.eu/en/publication-detail/-/publication/7a939850-6c18-11eb-aeb5-01aa75ed71a1>
- / MICROBOL (2022). *Micro-credentials linked to the Bologna Key Commitments. Common Framework for Micro-credentials in the EHEA*. [https://microcredentials.eu/wp-content/uploads/sites/20/2022/03/Micro-credentials\\_Framework\\_final-1.pdf](https://microcredentials.eu/wp-content/uploads/sites/20/2022/03/Micro-credentials_Framework_final-1.pdf)
- / MICROBOL (2021). *Micro-credentials and Bologna Key Commitments. State of play in the European Higher Education Area*. [https://microcredentials.eu/wp-content/uploads/sites/20/2021/02/Microbol\\_State-of-play-of-MCs-in-the-EHEA.pdf](https://microcredentials.eu/wp-content/uploads/sites/20/2021/02/Microbol_State-of-play-of-MCs-in-the-EHEA.pdf)

## / QUALIFICATION FRAMEWORKS AND ECTS

- / Cedefop (2017). *Defining, writing and applying learning outcomes: a European handbook*. Luxembourg: Publications Office. <http://dx.doi.org/10.2801/566770>.
- / European Commission, Directorate-General for Education, Youth, Sport and Culture (2015). *ECTS users' guide 2015*, Publications Office of the European Union. <https://data.europa.eu/doi/10.2766/87192>.
- / QUATRA (2023). *TPG A Recommendations and Guidelines on micro-credentials*. [https://ehea.info/Immagini/QUATRA\\_-\\_TPG\\_A\\_recommendations\\_on\\_micro-credentials\\_09.11.2023\\_.pdf](https://ehea.info/Immagini/QUATRA_-_TPG_A_recommendations_on_micro-credentials_09.11.2023_.pdf).

## / QUALITY ASSURANCE

- / ENQA (2023). *Quality Assurance of Micro-Credentials: Expectations within the Context of the Standards and Guidelines for Quality Assurance in the European Higher Education Area*. <https://www.enqa.eu/wp-content/uploads/ENQA-micro-credentials-report.pdf>.
- / IMINQA (2024). *Quality assurance of micro-credentials: Reflective questions for internal and external quality assurance*. [https://www.enqa.eu/wp-content/uploads/QA-of-MCs\\_Reflective-Qus-for-IQA-and-EQA.pdf](https://www.enqa.eu/wp-content/uploads/QA-of-MCs_Reflective-Qus-for-IQA-and-EQA.pdf).
- / IMINQA (2023). *Approaches to Quality Assurance of Micro-credentials. A report on policies and practices to assure the quality of micro-credentials in the European Higher Education Area*. [https://ehea.info/Upload/IMINQA\\_MC\\_report\\_Approaches\\_to\\_Quality\\_Assurance\\_of\\_Micro\\_credentials.pdf](https://ehea.info/Upload/IMINQA_MC_report_Approaches_to_Quality_Assurance_of_Micro_credentials.pdf).

## / RECOGNITION

- / ENIC-NARIC. *Micro-credentials*. <https://www.enic-naric.net/page-micro-credentials>.
- / Nuffic (2022). *The Rise and Recognition of Micro-credentials. Stacking Modules and the Future of the Qualification*. <https://www.nuffic.nl/sites/default/files/2022-03/The%20rise%20and%20recognition%20of%20micro-credentials.pdf>.
- / Nuffic (2020). *The European Recognition Manual for Higher Education Institutions*. <https://www.nuffic.nl/sites/default/files/2020-08/the-european-recognition-manual-for-higher-education-institutions%20%281%29.pdf>.

/ TPG-LRC (2021). *Information provision on recognition of qualifications. A practical guide for higher education institutions.*

[https://www.cimea.it/Upload/Documenti/52\\_Brochure\\_information\\_provision\\_A4.pdf](https://www.cimea.it/Upload/Documenti/52_Brochure_information_provision_A4.pdf).

/ Nuffic (2019). *Academic recognition of e-learning Recommendations for online learning providers.*

<https://www.nuffic.nl/sites/default/files/2020-08/academic-recognition-of-e-learning.pdf>.

## / TOOLS AND PROJECTS

/ MARTe – A technological approach to micro-credentials.

<https://www.cimea.it/EN/pagina-marte>.

/ MICROCASA – MICRO-credentials for life-long learning and employability: Building Capacities for developing Agile educational interventions in Southeast Asian Universities.

<https://microcasa.uc3m.es/>.

/ Micro-Evaluator. <https://www.nuffic.nl/en/subjects/recognition-projects/the-micro-evaluator>

/ Micro-GEAR – Micro-credentials for Higher Education systems of Georgia and Armenia: South Caucasus lighthouse project. <https://microgear.org/>.

## / UNESCO

/ UNESCO (2023). *Short courses, micro-credentials, and flexible learning pathways: a blueprint for policy development and action.*

<https://unesdoc.unesco.org/ark:/48223/pf0000384326/PDF/384326eng.pdf.multi>.

/ UNESCO (2022). *Beyond Limits. New Ways to Reinvent Higher Education.*

<https://cdn.eventscase.com/www.whec2022.org/uploads/users/699058/uploads/69c2df623079c3845e236c56ba2d7a8aa21b3d75489e28c7910226f24f7989aec7aae05a23f31fae4587aeb4be088f99dccd.6282b2a95281d.pdf>.

/ UNESCO (2022). *Towards a common definition of micro-credentials.*

<https://unesdoc.unesco.org/ark:/48223/pf0000381668>.





