

INTEGRATION OF MICRO- CREDENTIALS IN THE HIGHER EDUCATION OF GEORGIA

WHITE PAPER



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Executive Summary

This document explores the integration of micro-credentials into Georgia's higher education system as a transformative approach to continuous learning, skills development, and the upskilling and reskilling of the workforce. The document highlights the benefits, challenges, legislative changes, and a proposed framework to ensure the accessibility, quality, and recognition of micro-credentials. It focuses on the role of micro-credentials in aligning higher education with labour market demands and fostering innovation.



1. INTRODUCTION

In the context of education, courses leading to micro-credentials are short-term, competence-oriented study programmes or modules aimed at developing specific knowledge and skills, after the completion of which a state-recognized certificate is issued. Micro-credentials are designed for the flexible education, retraining, or development of students, professionals, and lifelong learners to meet the demands of the modern, rapidly changing job market. Micro-credentials are often stackable, meaning that they can be used to obtain broader qualifications, such as traditional academic degrees (e.g., Bachelor's or Master's).

In the Council Recommendation of 16 June 2022 on a European approach to micro-credentials (2022/C243/02), micro-credentials are defined as follows:

“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”.¹

The European Union has defined the following mandatory elements for describing a micro-credential:

- Identification of the learner
- Title of the micro-credential
- Country of the issuer
- Awarding body(ies)
- Date of issuing
- Learning outcomes
- Notional workload needed to achieve the learning outcomes
- 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

¹ [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627\(02\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627(02))



According to the European Centre for the Development of Vocational Training (Cedefop), a microcredential means “Record of the learning outcomes that a learner has acquired following a small unit of learning, and that have been assessed against a predefined standard”.²

The United Nations Educational, Scientific and Cultural Organization (UNESCO) offers a definition that distinguishes between credits, micro-credentials, and macro-credentials:

Credentials verify, validate, confirm, or corroborate a person’s learning achievements, knowledge and preparedness for performing tasks. Credentials are diverse with regard to their scope, status and purpose.

A large subset of credentials can be referred to as macro-credentials: generally, these include degrees, diplomas, certificates and licenses, often awarded by accredited, recognized or regulated educational and other institutions or organizations. They indicate learning achievement of a broad body of knowledge, transferable skills or technical proficiency and may take a number of years to complete. While some are pursued for personal or general educational advancement, others are associated with qualifying to practise a particular profession or to follow a particular career path.

Another large subset of credentials can be referred to as micro-credentials: these are typically focused on a specific set of learning outcomes in a narrow field of learning and achieved over a shorter period. Micro-credentials are offered by commercial entities, private providers and professional bodies, traditional education and training providers, community organizations and other types of organizations. While many micro-credentials represent the outcomes of more traditional learning experiences, others verify demonstration of achievements acquired elsewhere, in the workplace, through volunteering, or through personal interest learning. Micro-credentials are often promoted as an efficient way to upskill workers across the lifespan.

A micro-credential:

- Is a record of focused learning achievement verifying what the learner knows, understands or can do.
- Includes assessment based on clearly defined standards and is awarded by a trusted provider.
- Has standalone value and may also contribute to or complement other micro-credentials or macro-credentials, including through recognition of prior learning.
- Meets the standards required by relevant quality assurance³.

²<https://www.cedefop.europa.eu/en/tools/vetglossary/glossary/microcredential#:~:text=Record%20of%20the%20learnin g%20outcomes,assessed%20against%20a%20predefined%20standard>

³ <https://unesdoc.unesco.org/ark:/48223/pf0000381668>



- According to Colleges and Institutes Canada, a micro-credential is a certification of assessed competencies that is additional, alternative, complementary to, or a component of a formal qualification.⁴

According to the UK's Quality Assurance Agency for Higher Education (QAA), for the purposes of the UK higher education, a micro-credential is: credit-bearing against a recognised level of the Qualifications Frameworks; subject to standard quality assurance mechanisms; not normally an award in its own right on the Qualifications Frameworks, although there are no upper or lower limits on the amount of credit that a micro-credential carries.⁵

According to the same agency, several terms are in use in relation to short courses, both for how the learning is expressed and how it is certificated. These include:

- nano-credentials
- micro-qualifications
- MicroMasters
- nano-degrees
- short courses
- modular pathways.

The same institution as well as some other digital platforms implementing such courses, further complicate the terminology used for certification/recognition, such as:

- digital badges
- open badges.

The global demand for micro-credentials is growing rapidly, driven by the volatility of the modern labour market and the need for flexible learning, training, and retraining to align the workforce with its demands. This involves equipping professionals with specific skills in a short time to embrace new technologies and address workplace deficiencies. Micro-credentials also promote access to lifelong learning and individual career development, often solving the problems of duration and cost associated with traditional education.

1.1 Micro-credentials in the Georgian Education System

⁴<https://www.collegesinstitutes.ca/colleges-and-institutes-in-your-community/benefit-college-institutecredential/national-framework-for-microcredentials/>

⁵ https://www.qaa.ac.uk/docs/qaa/quality-code/micro-credentials-characteristics-statement.pdf?sfvrsn=32bda081_8



In Georgia, at the level of vocational education, there are already programmes comparable to microcredentials – vocational training and retraining educational programmes, upon completion of which a state-recognized certificate is issued. One of the state policy goals in this area – “promoting a person's competitiveness on the labour market through their vocational training and retraining” – directly echoes the purpose and function of micro-credentials.

A vocational training programme prepares a person to perform individual tasks and duties related to a profession, while a vocational retraining programme aims to provide or develop a person's competencies in a certain field to carry out professional activities in the same field. The learning outcomes provided by these programmes may correspond to levels 2-5 of the National Qualifications Framework.

Notably, any legal entity that meets the requirements set by the procedure for obtaining the right to implement a vocational training/retraining programme can offer such programmes in the country. Georgia has developed quality assurance standards and mechanisms for vocational training and retraining programmes, and the Ministry of Education, Science and Youth has established rules for recognizing learning outcomes achieved within non-formal and formal education in the vocational sector.

The integration of micro-credentials in the higher education sector in Georgia will significantly help to align the knowledge, skills, and competencies developed for students with the demands of the modern labour market, including in the areas of digital technologies and innovations. It will enable the integration of the newest and most relevant knowledge through relatively short, inexpensive, and flexible educational programmes. This, in turn, will promote educational inclusivity, enhance access to education (including for low-income and vulnerable groups), prepare highly qualified individuals equipped with modern and specialized knowledge for the labour market, consider employers' interests in the design of micro-credentials, tailor programme content to their needs, and thereby reduce social inequality.

It is important to note that micro-credentials are rightly perceived as a mechanism to support lifelong learning, as they promote continuous education and retraining, which is crucial in a rapidly changing environment, especially for youth and the elderly. The implementation of micro-credentials can bring economic benefits to the country by promoting rapid employment and increasing employee productivity. It can also bring financial benefits for implementing higher education institutions and/or other legal entities through the diversification of their educational services (offering new courses; attracting new students/learners).



In line with the 2022 Council of Europe Recommendations (2022/C 243/02) (C/2024/1115), EU countries have actively started to uptake the micro-credentials. Several countries across Europe have already developed legal regulations for this purpose. The USA, Australia, Canada, and New Zealand have also achieved success in implementing micro-credentials. Integrating micro-credentials into Georgia's National Qualifications Framework will help raise education standards and promote the international recognition of nationally obtained micro-credential(s), as well as the mobility of students/learners and the workforce.

2. INTERNATIONAL PRACTICES FOR IMPLEMENTING MICRO-CREDENTIALS

The uptake of micro-credentials in the education began in the early 2010s, when online learning platforms like Coursera and edX started offering short-term courses and digital badges. Large-scale development began in the 2020s, especially after the EU's 2022 Recommendation, which encouraged their integration into the National Qualifications Frameworks of European countries.

In 2015 Canadian eCampusOntario, a non-profit organization founded by the government, began pilot projects with two universities to align micro-credentials with industry needs. This period saw intensified discussions among business and non-profit representatives about the importance of micro-credentials in addressing the skills gap.

In 2018 the State University of New York (SUNY) developed a micro-credential policy framework emphasizing stackability, industry relevance, and portability of micro-credentials. SUNY's microcredentials in high-demand fields, certified with digital badges from platforms like Credly, became a model for other institutions.

In 2020-2022 the Erasmus+-funded MICROBOL project supported reforms in the European Higher Education Area (EHEA) by defining micro-credentials and the application of Bologna Process tools (e.g., ECTS credits, quality assurance) to them.

In 2022 the European Commission adopted a recommendation for standardizing micro-credentials in the EU Countries. This emphasized quality assurance, recognition, and portability by integrating microcredentials into the lifelong learning process and the Europass platform, thereby strengthening their role in formal education systems.



From 2020 to the present, the growing relevance of micro-credentials has been driven by several factors:

1. **Pandemic-Induced Growth:** The COVID-19 pandemic accelerated the development of online micro-credentials due to changing labour market demands and the need for rapid skills development. Platforms like FutureLearn and Coursera expanded their offerings, and European higher education institutions began offering micro-credentials, especially in fields like programming and analytics.
2. **Quality Assurance and Standardization:** Projects like MicroCredX and initiatives by the European University Association (EUA), including its DIGI-HE project (2020), focused on standardizing quality and recognition.
3. **Integration with Employers and Industry:** By 2023, reports like the Strada-Gallup survey and the Workcred framework highlighted the value of micro-credentials in enhancing employment, with employers recognizing them as proof of specific skills. Higher education institutions are increasingly collaborating with industry to create micro-credentials that ensure relevance to job roles.
4. **Active Implementation:** In 2023-2024, active implementation of micro-credentials began in the EHEA. Universities in Ireland (University of Limerick, Trinity College Dublin, Open University); Finland (University of Helsinki (Una Europa)); Italy (European University of Rome; International Telematic University (UNINETTUNO)); Spain (Universitat Oberta de Catalunya (UOC), University Carlos III de Madrid); Germany (Saarland University; Hasso Plattner Institute (HPI), University of Potsdam); the Czech Republic (Czech Technical University (EuroTeQ)) and other European states started offering micro-credential courses in various fields at the higher education level. This trend of increased implementation is also observed beyond Europe in the USA, Canada, Australia, and New Zealand.
5. **Current Trends:** Micro-credentials are a key pillar of modern education. Institutions and platforms such as the European Commission's "European Blockchain Services Infrastructure"⁶, Italy's CIMEA "DIPLOME" platform, France's "BCDIPLOMA,"⁷ the European Information Technologies Certification Academy's "EITCA"⁸ platform, and other digital badge platforms are developing powerful blockchain infrastructures to support the digital certification of microcredentials, ensuring their portability and verifiability. The focus remains on stackability, flexibility in teaching and learning, and aligning learning outcomes with employer needs.

⁶ <https://hub.ebsi.eu/>

⁷ <https://www.bcdiploma.com/en>

⁸ <https://eitca.org/>



3. ADVANTAGES OF MICRO-CREDENTIALS

Compared to micro-credentials, traditional diplomas are limited in meeting the needs of the modern workforce in the following key areas:

Time and Cost: A standard academic programme takes 3-6 years to complete and has a high tuition fee. Micro-credentials offer much shorter and lower-cost courses.

Content and Relevance: Some employers believe that traditional diplomas do not provide the practical skills needed for modern jobs, as academic programmes update slowly and focus on broad theoretical knowledge. This often leads to a skills mismatch, as labour market demands change rapidly. For example, EUA DIGI-HE report 2023 noted that degree holders often lack "soft" skills like teamwork or problem-solving.⁹ In contrast, micro-credentials are designed for rapid adaptation to labour market changes, allowing providers to quickly develop courses that address new technologies and industry needs, ensuring job-oriented outcomes.

Flexibility and Accessibility: Traditional academic programmes often require in-person attendance and are not tailored to non-traditional learners, such as employed or older professionals. Admission prerequisites can also be strict, whereas micro-credentials are targeted at a broader audience. Microcredentials offer flexible hybrid or fully online learning options, with a duration and pace that can be adapted to the learner's needs.

Recognition: The recognition process for academic education is complex, as it often relies on physical documents, which can lead to issues with authentication and translation. The portability of microcredentials is ensured by secure blockchain technologies, which practically eliminates the possibility of forgery and is integrated with trusted digital certificate platforms, simplifying their verification, portability, and recognition.

⁹ https://www.eua.eu/images/pdf/digi-he_final_report.pdf



4. ACTIVITIES CARRIED OUT AT THE NATIONAL LEVEL FOR THE IMPLEMENTATION OF MICRO-CREDENTIALS

Since 2020, Georgia has been involved in various activities aimed at implementing micro-credentials, including the European Commission-funded MICROBOL project. The project aimed to support the uptake of a micro-credential system in higher education within the framework of the EHEA's core commitments. The 2021 [study](#) conducted as part of the project identified the lack of a relevant legislative framework as the main challenge for higher education institutions in Georgia.

Since 2022, the LEPL – National Center for Educational Quality Enhancement (NCEQE) has also been involved in the "Implementation and Innovation in Quality Assurance through Peer Learning (IMINQA)" project, a partnership with the European Association for Quality Assurance in Higher Education (ENQA).

Within this project, key recommendations were prepared to help providers outside of higher education institutions to effectively develop and formalize micro-credentials.

In 2023, the NCEQE developed a thematic analysis document titled "[Analysis of Best International Practices and the National Legislative Base for the Implementation of Micro-credentials in the Georgian Higher Education System](#)." Based on this document, Action Plan 2024 of the Center included preparing recommendations on initiating amendments to regulatory acts for the implementation and recognition of micro-credentials in the Georgia's higher education system.

Furthermore, the Center, along with the Ministry of Education, Science and Youth of Georgia, the LEPL Georgian Technical University, the Georgian University LLC, and the Georgian Research and Educational Networking Association (GRENA), is participating in the project "Micro-credentials for Higher Education Systems of Georgia and Armenia: South Caucasus Lighthouse Project" (Micro-GEAR), which is implemented with the financial support of the EU ERASMUS+ Programme. The project involves 16 institutions from 5 countries, including the Ministry of Education and Science of Armenia, the National Center for Quality Development of Armenia, the National Information Center for Academic Recognition and Mobility, and several Armenian higher education institutions. Higher education institutions, research institutes, and academic recognition and mobility centres from Italy, Spain, and Germany are also participating. The project aims to promote the integration, implementation, mutual recognition, and creation of relevant legal frameworks for micro-credentials in the higher education systems of Georgia and Armenia.



Within the Micro-GEAR project, [status quo analysis documents](#), roadmaps and whitepapers (this document) on micro-credentials in the higher education systems of Armenia and Georgia have been developed. It is also planned to develop a guide for the integration of micro-credentials at the higher education level in these countries, prepare a relevant analytical document (Whitepaper) for their implementation, develop a micro-credentials handbook, and pilot micro-credential courses.

5. KEY CHALLENGES AND SOLUTIONS IN MICRO-CREDENTIAL DESIGN, RECOGNITION, AND ISSUANCE

Research conducted in 2021 and 2024 on the existing practices related to micro-credentials in the country revealed that the primary challenge for implementing them in Georgia's higher education system is the absence of a proper legal framework. To overcome this challenge, it is advisable to amend the Law of Georgia on Higher Education to create the necessary ecosystem, legal foundations for microcredentials and establish:

- a) The definition of micro-credentials (as a result of small-credit programmes);
- b) The Development of the ecosystem for micro-credentials and their admission prerequisites ;
- c) The ways to obtain the right to implement units of learning, leading to micro-credentials and the provider institutions;
- d) The nationally defined workload, including the minimum and maximum volume of ECTS credits for micro-credentials;
- e) The calculation of student workload in ECTS credits for micro-credentials;
- f) The forms of implementation and assessment for micro-credentials;
- g) The recognition of micro-credentials learning outcomes at levels 6 and 7 of the National Qualifications Framework, and the definition of responsible bodies/organizations and procedures for recognition;
- h) The agency/agencies responsible for creating and managing the digital infrastructure for digital certification and ensuring the portability of micro-credentials;
- i) The funding models for micro-credentials, including for the promotion of adult education and lifelong learning, especially in the context of increasing access for vulnerable groups;
- j) The development and management of a registry for micro-credentials, providers, and students/learners;
- k) The mechanisms for recognizing non-formal education received in a structured environment within the higher education system;



- l) Mechanisms for recognizing the learning outcomes achieved within higher vocational education programmes at level 5 of the National Qualifications Framework, as well as micro-credentials programmes, within Bachelor's, one-cycle/integrated, and Master's educational programmes; also, mechanisms for recognizing micro-credentials within regulated higher education programmes;
- m) The maximum number of ECTS credits to be recognized from micro-credentials and higher vocational education programmes at level 5 of the National Qualifications Framework at levels 6 and 7 (within integrated and one-cycle programmes)

It is also advisable to amend the Law of Georgia on Education Quality Enhancement to define for microcredentials:

- a) The eligible providers,
- b) Internal and external quality assurance mechanisms,
- c) Mechanisms for the recognition of learning outcomes and the bodies/institutions responsible for this process.

It is advisable to make changes to the authorization standards and procedures for educational institutions and the accreditation of educational programmes to account for the specifics of programmes leading to micro-credentials in the higher education system. Furthermore, it is advisable for the Minister of Education, Science and Youth to issue an order regulating the fields of study and, in the first stage, the list of higher education institutions where the implementation and recognition of micro-credentials at levels 6 and 7 of the National Qualifications Framework will be permitted.

National-level studies have also identified the low interest of higher education institutions and employers as significant challenges for the implementation of micro-credentials. It is recommended that the Ministry, together with relevant subordinate agencies and institutions involved in the project, ensure the strengthening of capacities and raising of awareness through informational meetings, trainings, and projects for the general public, higher education institutions, their staff, labour market and industry representatives, and representatives of institutions responsible for the quality assurance and management of digital certification platforms regarding the importance and benefits of implementing micro-credentials.

It is recommended that, in the first stage, several higher education institutions will be selected to pilot micro-credentials in fields defined by the Minister's order, through which quality assurance mechanisms will be tested. The implementation of internal and external evaluation and regular review of courses, by collecting feedback from learners, employers, and providers, will make it possible to assess the impact of micro-credentials for the adaptation and development of the relevant legal framework.



6. CONCLUSION

The integration of micro-credentials into the Georgia's higher education system represents a transformational opportunity that will help align education with the demands of the modern labour market, promote access to lifelong learning, foster innovation, and strengthen socio-economic quality.

As result of short-term, competence-oriented learning modules, micro-credentials are linked to flexible, accessible, and market-aligned education, which is particularly important in the context of a rapidly changing economy and technological development.

Georgia's existing vocational training and retraining programmes create fertile ground for the integration of micro-credentials, but their implementation at the higher education level requires the development of legal, institutional, and digital infrastructure. The experience of European and other developed countries, as well as the 2022 EU Recommendation, shows that the successful implementation of micro-credentials depends on compliance with quality assurance standards, recognition mechanisms, collaboration with industry, and the digital certification of achieved learning outcomes.

Studies from 2021-2024 revealed that the main challenges are the lack of a legal framework, quality assurance and recognition mechanisms, as well as low awareness among employers and educational institutions. To overcome these challenges, Georgia's participation in international projects (e.g., MICROBOL, Micro-GEAR) and the studies and activities carried out at the national level indicate a readiness to take tangible steps towards the integration of micro-credentials.

The integration of micro-credentials in Georgia will not only enhance the inclusivity and accessibility of education but will also promote the training and employment of personnel that meet labour market demands, increase the competitiveness of the workforce, and gain international recognition, which is particularly important in the context of integration with the European Union.

7. RECOMMENDATIONS

1. **Creation of a Legal Framework:**



- **Activity:** Implement amendments to the Law of Georgia on "Higher Education" and "On Education Quality Enhancement" to define micro-credentials, their implementation forms, provider types, quality assurance mechanisms, ECTS credit volume, recognition procedures, digital certification, and funding models.
- **Responsible:** Ministry of Education, Science and Youth; LEPL – National Center for Educational Quality Enhancement (NCEQE).
- **Deadline:** 2025–2026.

2. Implementation of Pilot Programmes:

- **Activity:** Within the micro-GEAR project, 3 institutions (LEPL Georgian Technical University, Georgian University LLC; Georgian Research and Educational Networking Association "GRENA") will be selected to implement pilot courses leading to micro-credentials in highdemand fields (e.g., Computer Network Administration for SMEs, Microcontroller Programming for Drone Applications, GIS for Tourism, Python/R Programming for Data Analysis in Medicine). This process will include internal and external quality assessment, and the collection and analysis of feedback from learners, employers, and providers.
- **Responsible:** Ministry of Education, Science and Youth, NCEQE, participating pilot institutions.
- **Deadline:** September 2025 – December 2026.

3. Awareness Raising and Collaboration:

- **Activity:** Both within and beyond the micro-GEAR project, the involved institutions, as well as the NCEQE, with the support of the Ministry of Education, Science and Youth, will conduct information campaigns, trainings, and seminars for higher education institutions, employers, industry representatives, and the public on the benefits, quality assurance, and digital certification of micro-credentials.
- **Responsible:** Ministry of Education, Science and Youth; NCEQE, GRENA, LEPL Georgian Technical University, LLC Georgian University.
- **Deadline:** 2025–2027.

4. Development of Digital Infrastructure:

- **Activity:** Create a national digital platform (analogous to Europass or Credly) using blockchain technologies for the certification, portability, and verification of micro-credentials. Create a national registry of micro-credentials and micro-credential learners.
- **Responsible:** Ministry of Education, Science and Youth; NCEQE; LEPL Education Management Information System (EMIS); GRENA.
- **Deadline:** 2026–2028.



5. Implementation of Quality Assurance Mechanisms:

- **Activity:** Update authorization and accreditation standards to reflect the specifics of micro-credentials. Develop internal and external quality assurance mechanisms, including defining transparent criteria for the assessment of learning outcomes.
- **Responsible:** Ministry of Education, Science and Youth; NCEQE; Higher Education Institutions.
- **Deadline:** 2025–2026.

6. Recognition and Integration Mechanisms:

- **Activity:** Define mechanisms for the recognition of micro-credentials at levels 6 and 7 of the National Qualifications Framework, including the maximum number of ECTS credits to be recognized in bachelor's and master's programs. Develop procedures for the recognition of non-formal education and vocational programs (level 5) at the higher education level.
- **Responsible:** Ministry of Education, Science and Youth; NCEQE.
- **Deadline:** 2026–2027.

7. Development of Funding Models:

- **Activity:** Develop and define funding models for micro-credentials at the legislative level, including establishing types of state grants and private investments to implement targeted programs for vulnerable groups (e.g., low-income, elderly learners).
- **Responsible:** Ministry; Educational Institutions.
- **Deadline:** 2026–2028.

8. Strengthening International Cooperation:

- **Activity:** Strengthen involvement and cooperation in international projects for the implementation and development of micro-credentials and share experiences with neighbouring countries and European universities on the development and recognition of micro-credentials.
- **Responsible:** Ministry of Education, Science and Youth; NCEQE; Higher Education Institutions.
Deadline: 2025–2030.

Note: The above recommendations are based on EU standards, international practice, and Georgia's national priorities, which will ensure the sustainable and effective integration of micro-credentials.

SOURCES



Blockchain Certified Data- BCDIPLOMA <https://www.bcdiploma.com/en>

Cedefop - European Centre for the Development of Vocational Training. Microcredential <https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary/microcredential#:~:text=Record%20of%20the%20learning%20outcomes,as%20assessed%20against%20a%20predefined%20standard>

CIMEA Diplome Chain <https://cimea-diplome.it/>

Colleges and Institutes Canada. National framework for microcredentials <https://www.collegesinstitutes.ca/colleges-and-institutes-in-your-community/benefit-college-institute-credential/national-framework-for-microcredentials/>

European Blockchain Services Infrastructure (EBSI) <https://hub.ebsi.eu/>

European Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability (2022/C 243/02) [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627\(02\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627(02))

European Council Recommendation of 23 November 2023 on the key enabling factors for successful digital education and training (C/2024/1115) <https://data.consilium.europa.eu/doc/document/ST-15741-2023-INIT/en/pdf>

European Information Technologies Certification Academy - Attesting your professional digital skills <https://eitca.org/>

Quality Assurance Agency for Higher Education (QAA). 2022. https://www.qaa.ac.uk/docs/qaa/quality-code/micro-credentials-characteristics-statement.pdf?sfvrsn=32bda081_8

UNESCO Towards a common definition of micro-credentials. 2022. <https://unesdoc.unesco.org/ark:/48223/pf0000381668>