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"MICRO-GEAR MICRO-CREDENTIALS FOR HIGHER EDUCATION SYSTEMS OF GEORGIA AND ARMENIA: SOUTH CAUCASUS LIGHTHOUSE PROJECT"
Project #101127144

INTEGRATION OF MICRO-CREDENTIALS IN THE HIGHER EDUCATION SYSTEMS OF GEORGIA AND ARMENIA

WHITE PAPERS and NATIONAL ROADMAPS

WP1: D1.2. National Roadmaps for micro-credentials and White Papers on Micro-credentials

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Author:	Dr. Zaza Tsiramua (GTU), Arsen Aproyan
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Micro-GEAR

INTEGRATION OF MICRO-CREDENTIALS IN THE HIGHER EDUCATION OF GEORGIA

WHITE PAPER

Tbilisi

June 30, 2025

The experts involved in preparation of the Whitepaper and Roadmap documents: Nino Goglichidze (NCEQE), Tamar Onoprienko (GTU), Zaza Tsiramua (GTU)

Special thanks to: Ana Kamladze (NCEQE), Manuela Costone (CIMEA) and Federica Sancelo (CIMEA)

Contact Information: [zaza@gtu.ge; n.goglichidze@eqe.ge]

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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/C 243/02), 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

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

- Type of assessment
- Form of participation in the learning activity
- Type of quality assurance used to underpin the micro-credential

According to the European Centre for the Development of Vocational Training (Cedefop), a micro-credential 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.

[2] https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary/microcredential#:~:text=Record%20of%20the%20learning%20outcomes,assessed%20against%20a%20predefined%20standard

- 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 assurance. [3]

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

[3] https://unesdoc.unesco.org/ark:/48223/pf0000381668
[4] https://www.collegesinstitutes.ca/colleges-and-institutes-in-your-community/benefit-college-institute-credential/national-framework-for-microcredentials/
[5] https://www.qaa.ac.uk/docs/qaa/quality-code/micro-credentials-characteristics-statement.pdf?sfvrsn=32bda081_8

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

In Georgia, at the level of vocational education, there are already programmes comparable to micro-credentials – 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 micro-credentials 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 micro-credentials 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 micro-credentials, 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. Micro-credentials 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 micro-credentials 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.

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

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

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 micro-credentials 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 programems; 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 micro-credentials:

a) The elgible providers s,
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 equality. As result of short-term, competence-oriented learning modules, micro-credentialsare 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 high-demand 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.

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Micro-GEAR

ROADMAP FOR MICRO-CREDENTIALS IN THE HIGHER EDUCATION SYSTEM OF GEORGIA

Tbilisi

2025

Content

1. Introduction

According to the thematic analysis conducted by the National Center for Educational Quality Enhancement, a micro-credential (MC) is defined as documented evidence of the assessment and validation of learning outcomes achieved through a small-scale learning activity conducted in a structured, formal environment.[1] A micro-credential may serve as a standalone, small qualification or be combined with other micro-credentials to contribute toward a broader qualification.

In the context of tertiary education, micro-credentials enable learners and students:

- to pursue flexible and modular learning pathways,
- to upskill and reskill in other fields, thereby enhancing their employability,
- to be provided recognition and validation of specific knowledge, skills, and learning outcomes acquired outside formal education, but within a structured learning environment.

At the institutional level, the introduction of micro-credentials in Georgian higher education may contribute to an increase in the number of prospective students, enhanced institutional visibility and reputation, improved alignment between graduate competencies and the needs of industry and the labor market, and diversification of institutional income streams.

This roadmap outlines the objectives, activities, milestones, and expected outcomes for each phase of the micro-credential implementation process in Georgia.

2. Context and Rationale

The road map is developed to identify:

National Needs and Competency Gaps

- Identify certain competency gaps in the Higher Education system of Georgia.
- Align micro-credentials with national development strategies (e.g., Vision 2030: Strategy for the Development of Georgia; 2022-2030 Unified National Strategy of Education and Science of Georgia; Higher Education and Research Internationalization in Georgia 2030: Recommendations).
- Map how micro-credentials will promote the employability, upskilling, and reskilling of the workforce.

Alignment with the Higher Education Reforms in Georgia

- Incorporate micro-credentials into ongoing higher education reforms, especially those aligned with the Bologna Process.

[1] https://www.eqe.ge/res/მიკროკრედიტების%20თემატური%20ანალიზი%20ინგლ..pdf

- Ensure compatibility with the National Qualifications Framework (NQF) of the country.
- Support the alignment of micro-credentials with institutional priorities for flexible, lifelong, and/or continuous education pathways.

3. Policy Development and Stakeholder Engagement

Activities

1. Policy Development Measures

Integrate micro-credentials into the National Qualifications Framework (NQF) to ensure their quality implementation and assessment. The revised framework should also promote transparency, consistency, and objectivity across the sector, particularly in relation to credit recognition mechanisms, as well as the portability and stackability of micro-credentials.

- Establish a working group composed of representatives from the Ministry, higher education institutions (HEIs), training providers, employers, and the NCEQE.
- Develop a policy recommendation and guideline on micro-credentials, defining their scope and alignment with European approaches.
- Review and, where necessary, amend existing legislation to support the integration of micro-credentials.

2. Stakeholders Engagement

- Conduct informative and consultative workshops with HEIs, employers, and policymakers.
- Develop a joint strategic document outlining the implementation of micro-credentials across Georgian HEIs and other relevant training providers.

Milestones

- **Quarter 1**:
  - Work group Formed – clear roles & responsibilities assigned.
  - Draft Policy Document/ MC Guideline submitted – circulated to key stakeholders.
- **Quarter 3-4**:
  - Policy Framework/recommendations approved by relevant authorities (Parliament of Georgia, Ministry, government).
  - A joint strategic document was published, outlining shared goals and timelines.

4. Quality Assurance Mechanisms

Activities

1. **Development of the Standards**

- Adapt International best practices to create QA guidelines specific to micro-credentials.
- Define minimum requirements (learning outcomes, credit/workload, assessment) and establish transparent descriptors.

2. **Implementation of External and Internal QA**

- Pilot the QA framework in selected institutions, using learners/students' feedback, internal reviews, and external accreditation.
- Publish revised QA guidelines for wider adoption.

Milestones

- **Quarter 2-4:**
    - Draft QA Standards completed, reflecting needs in shorter course and learning outcomes.
    - Pilot Institutions Selected for initial QA testing.
- **Quarter 2-5:**
    - Pilot QA Assessments completed; feedback integrated.
    - Final QA Framework published; guidelines made available to all HEIs.

5. Integration into the National Qualifications Framework and recognition

Activities

1. **Alignment with the Existing NQF of Georgia**

- To develop a methodology for determining the alignment of micro-credentials with the levels of the National Qualifications Framework, ensuring consistent recognition and portability.
- Arrange technical consultations with NQF experts to validate credit values and learning outcomes.
- Develop the elements for fair recognition of micro-credentials, ensuring transparency and completeness of information provided by the HEIs in line with the main principles of the Lisbon Recognition Convention.

2. **Standardization of the Descriptors**

- Design a standardized template for pilot micro-credentials to ensure consistent description of learning outcomes, workload (in ECTS or a comparable system), and credit values**.**
- Make MC portability possible, as well as examine how they can be stacked and integrated into formal qualifications**.**

Milestones

- **Quarter 2-3**:
    - NQF Mapping Document created; micro-credentials assigned to appropriate levels.
    - Standard Description Template finalized, covering outcomes, workload, and credits.
- **Quarter 3-6**:
    - Official Recognition of micro-credentials within the NQF; published guidelines for institutional compliance.

6. Digital solutions

Activities

1. **Adaptation of Digital Credentialing Platforms**

- Assess existing platforms or develop a national/institutional solution for digital badge issuance and verification.
- Ensure open standards to support interoperability and international recognition.

Milestones

- **Quarter 2-3**:
    - Platform Selection/Development decided; basic functionality outlined (badge issuance, verification).
- **Quarter 3-6**:
    - Pilot Launch of Credentialing Platform in select institutions; feedback gathered on user experience and security.

7. Pilot Curriculum Development

Activities

1. **Design Relevant Micro-Credentials**
    - Design short learning programs/courses/modules on previously Identified in-demand skills (Computer Network Administration, Microcontroller Programming for Drone Applications, GIS for Tourism, Programming for Data Analysis in medicine), leading to the required micro-credentials.
    - Ensure their stackablity – learners can progress to larger qualifications (diploma, degree).
2. **Collaborate with Industry**
    - Engage employers or sector experts in curriculum design to align with industry standards.
    - Embed practical components (case studies, simulations) to strengthen employability outcomes.

Milestones

- **Quarter 2-3**:
    - Initial MC course/module/program prototypes developed (short, competency-based units).
    - Industry representatives are engaged in the validation of the curriculum's relevance.
- **Quarter 4-5**:
    - Curriculum is finalized, resulting in micro-credentials (with industry endorsements).
    - Stackable Pathways are documented, detailing credit transfers to formal programs.

8. Awareness and Capacity Building

Activities

1. **Stakeholder Training**
    - Hold workshops and seminars for HEIs and industry representatives to demonstrate the benefits and mechanisms of micro-credentials.
    - Train educators, administrative staff, and employers on the development of infrastructure and implementation of courses/modules, leading to micro-credentials.
2. **Guidance Provided**

- Create online toolkits (manuals, FAQs, video tutorials) for institutions and individuals.

Milestones

- **Quarter 2-3**:
    - Awareness Workshops are conducted for pilot institutions and early adopters.
    - Initial Guidance Materials (leaflets, online content) distributed.
- **Quarter 3-5**:
    - Training Sessions: Additional seminars for expanded HEI participation and industry partners.
    - Toolkit Expansion based on pilot feedback (case studies, short, animated video in Georgian).

9. Monitoring and Evaluation of the MC Implementation

Activities

1. **Impact Assessment**
    - Track enrollment, completion rates, and employability outcomes (job placement, promotions).
    - Use surveys, focus groups, and analytics from the digital platform to gather feedback.
2. **Continuous Improvement**
    - Hold periodic review meetings with stakeholders to interpret data and adjust policies or curricula.
    - Monitor global trends (e.g., European Commission updates) to keep micro-credential practices aligned internationally.

Milestones

- **Quarter 2-3**:
    - Baseline Data collected on pilot micro-credentials (learner demographics, satisfaction levels).
    - Mid-Term Review is scheduled to address emerging challenges.
- **Quarter 4-6**:
    - Impact reports are published, showing learning outcomes, employability metrics, and stakeholder feedback.
    - Policy and practice refinements are integrated into QA frameworks and institutional guidelines for ongoing improvement.

10. Conclusion

The roadmap outlines a strategic and integrated approach to implementing micro-credentials within Georgia's higher education system. It addresses essential pillars of policy formulation, quality assurance mechanisms, digital infrastructure, curriculum development, stakeholder involvement, recognition procedures, and long-term sustainability. Consistent completion of the above-described activities will enable Georgia to develop a credible micro-credential system that is aligned with national development goals, as well as international standards.

The successful integration of micro-credentials into the Georgian higher education system involves harmonization with national strategic objectives, regulatory frameworks, and international best practices. Emphasis on quality assurance, institutional readiness, active stakeholder participation, and a clear communication strategy will support the establishment of a flexible, future-ready ecosystem for delivering short, targeted learning opportunities. This framework will serve as an effective mechanism for gaining new skills and competences, which ultimately will promote both individual employability and the competitiveness of the national workforce.

Key Outcomes

- National policy and frameworks for micro-credentials developed and integrated.
- Quality assurance mechanisms established and piloted.
- Stakeholder readiness for partnership is achieved.
- Digital infrastructure for credentialing operationalized.
- Industry-relevant programs/modules/courses leading to micro-credentials launched.
- Regular monitoring and evaluation procedures established for sustainable MC development.

Appendix 1

Timeframe	Key Activity	Milestone	Responsible Bodies
Quarter 1-4	**Policy Development & Stakeholder Engagement** - Form National work group.	work group operating	MES, NCEQE, GTU, GRENA, UG
Quarter 2-5	**Quality Assurance Mechanisms** - Develop a QA framework for micro-credentials (learning outcomes, workload, assessment). - Select pilot HEIs.	Draft QA Standards Completed, Pilot Institutions Selected	NCEQE
Quarter 2-5	**Awareness and Capacity Building** - Conduct awareness workshops for HEIs, policymakers, and employers. - Distribute initial guidance materials.	Awareness Workshops Held, Guidance Materials Published	UG, MES, NCEQE, GTU, GRENA
Quarter 2-6	**Integration into National Qualifications Framework (NQF)** - Map micro-credentials to NQF levels. - Validate alignment with national education standards.	NQF Mapping Document Completed Standardized Description Template Finalized	NCEQE
Quarter 2-4	**Baseline Data Collection for Monitoring & Evaluation** - Track pilot program enrollment and completion rates. - Collect employer feedback on skill relevance.	Baseline Data Report Published	NCEQE, GTU

Quarter 1-5	**Curriculum Development** - Develop micro-credential courses in priority fields (IT, Agriculture, etc.) - Ensure course stackability with existing programs.	Initial Micro-Credential Prototypes Developed	NCEQE, HEIs
Quarter 2-4	**QA Pilot Implementation & Review** - Conduct QA audits in pilot HEIs. - Gather learner feedback. - Adjust QA guidelines as needed.	Pilot QA Assessments Completed, Revised QA Standards Finalized	NCEQE
Quarter 4-5	**Expanded Training & Toolkit Development** - Conduct training sessions for additional HEIs and industry partners. - Expand online toolkit with case studies.	Comprehensive Training Sessions Held Toolkit Expansion Completed	GTU, GRENA, UG, NCEQE, MES
Quarter 2-3	**Draft policy framework for micro-credentials**. - Conduct legal review and gap analysis.	Established Draft Policy Document Circulated	NCEQE, MES
Quarter 2-4	**Launch of Pilot Micro-Credentials** - Implement courses in selected HEIs. - Issue first batch of digital badges/certificates.	Pilot Micro-Credentials Running Credentialing Platform Operational	GRENA, GTU, UG
Quarter 3-5	**Impact Evaluation & Refinement** - Conduct mid-term assessment of pilot programs. - Analyze learner/employer feedback.	Impact Reports Published Adjustments to Policy & QA Based on Findings	GRENA, GTU, UG, NCEQE
Quarter 5-6	**Scaling & Institutional Adoption** - Expand micro-credential offerings to more HEIs. - Establish stackable pathways for long-term qualifications.	Micro-Credentials Integrated into Degree Pathways	NCEQE

Quarter 2-6	**Continuous Monitoring & International Alignment** - Review global trends and update policies accordingly. - Establish partnerships for international recognition of micro-credentials in Georgia.	Ongoing Global Best Practice Alignment	MES, NCEQE, GTU, GRENA, UG
Quarter 2-6	**Technological Infrastructure Development** - Select or develop a digital credentialing platform. - Implement security and verification standards.	Platform Selection Finalized, Initial Security Measures Implemented	GRENA, MES/EMIS

Appendix 2

#	ACTIVITIES	2025		2026			
		Q 1	Q 2	Q 3	Q 4	Q 5	Q6
1	Policy Development & Stakeholder Engagement						
2	Quality Assurance Mechanisms						
3	Awareness and Capacity Building						
4	Integration into the National Qualifications Framework (NQF)						
5	Baseline Data Collection for Monitoring & Evaluation						
6	Curriculum Development						
7	QA Pilot Implementation & Review						
8	Expanded Training & Toolkit Development						
9	Draft policy framework for micro-credentials						
10	Launch of Pilot Micro-Credentials						

11	Impact Evaluation & Refinement						
12	Scaling & Institutional Adoption						
13	Continuous Monitoring & International Alignment						
14	Technological Infrastructure Development						

WHITE PAPER: ADVANCING MICRO-CREDENTIALS IN ARMENIAN HIGHER EDUCATION SYSTEM

“MICRO-GEAR MICRO-CREDENTIALS FOR HIGHEREDUCATION SYSTEMS OF GEORGIA AND ARMENIA: SOUTH CAUCASUS LIGHTHOUSE PROJECT”

Yerevan, 2025

Micro-GEAR

Co-funded by the European Union

Contents

"MICRO-GEAR: MICRO-CREDENTIALS FOR HIGHER EDUCATION SYSTEMS OF GEORGIA AND ARMENIA: SOUTH CAUCASUS LIGHTHOUSE PROJECT"
Project #101127144

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1. Executive Summary

Armenia is embracing micro-credentials as part of a broader strategy to modernize its education system, enhance lifelong learning, and respond to labor market needs. This white paper outlines the policy position, legal foundations, and implementation approach for micro-credentials in Armenia, informed by recent legislative developments and aligned with European Higher Education Area (EHEA) standards. This document explores the integration of micro-credentials into Armenian higher education system as a transformative approach to lifelong learning, skills development, and workforce qualification and requalification.

2. Introduction and Context

The 21st-century workforce requires constant upskilling, reskilling, and competency-based training. Traditional degree programs often lack the flexibility to meet these demands. Micro-credentials, as short, focused certifications of specific competencies, provide a means for learners to acquire and demonstrate skills in a timely and efficient manner. Armenia recognizes the strategic value of integrating micro-credentials into higher education to:

- Promote lifelong learning;
- Strengthen employment outcomes;
- Increase educational flexibility and access;
- Align national practices with international trends.

The introduction of micro-credentials at the higher education level will contribute significantly to the alignment of students' knowledge, skills, and competencies with modern labor market demands, including in fields like digital technologies and innovations. It will enable the integration of the most up-to-date knowledge through short, affordable, and flexible educational programs, thus promoting educational inclusivity and improving access to education, especially for low-income and vulnerable groups.

3. International Practices for the Implementation of Micro-Credentials

Although the notion of micro-credentials has only recently entered the European discourse on flexible teaching and learning, lifelong learning, and employability, higher education institutions (HEI) and alternative providers have been developing and delivering small units of learning for a long time. The introduction of micro-credentials in the educational space began in the early 2010s with online platforms like Coursera and edX, which offered short courses and digital badges. The large-scale development of micro-credentials accelerated in the 2020s, especially following the European Council's 2022 recommendation, which encouraged their integration into national qualifications frameworks across European countries.

Countries such as Canada, the United States, Australia, and New Zealand have also made significant strides in the implementation of micro-credentials. In 2020, the *MICROBOL* project, funded by Erasmus+, supported the reform of micro-credentials within the European Higher Education Area (EHEA). This project identified the definition of micro-credentials and applied tools like the European Credit Transfer and Accumulation System (ECTS) to them.

In 2023, EHEA TPG A working group on Micro-credentials conducted a survey of TPG A members (in total 28 countries) exploring the existence of smaller units of learning possibly leading to micro-credentials available in the respondent countries in higher education sector (EQF level 5-8) including adult continuing learning. The following main outcomes were highlighted:

- More targeted and comprehensive regulation of micro-credentials and other forms of smaller learning units in many countries may be necessary;
- Need for a reference to the EQF/NQF or QF-EHEA level in the certificates of micro credentials could be useful for transparency, comparability and recognition;
- Lack of uniformity in how qualifications are classified and recognized by different countries and HEIs leads to implications for the portability and comparability of micro-credentials;
- Need for a greater flexibility and responsiveness in higher education, as well as the potential of micro-credentials to meet specific skills and learning needs in the labour market are important aspects;
- Need for greater clarity and consistency in quality assurance as regards micro- credentials may be observed;
- Need for improved stakeholder understanding and support for micro-credentials approach was highlighted;
- Need for continued support and investment in the area concerning micro-credentials was emphasised;
- Need for increased international cooperation and coordination in the development and recognition of micro-credentials to support the development of approach to micro credentials;
- Need to develop a more unified and widely accepted definition of micro-credentials to raise stakeholders' awareness of micro-credentials.

Based on the results of the survey **recommendations and guidelines** were prepared and submitted to the Bologna Secretariat for the design and implementation of small units of learning leading to micro-credentials. The recommendations and guidelines were addressed to three different groups of stakeholders:

- **National authorities** in the countries of the EHEA responsible for developing system level policies and legislation;
- **Higher education institutions** in the EHEA designing and delivering small units of learning leading to micro-credentials (recommendations for practical use),
- **Quality assurance agencies** in the EHEA developing standards, principles, procedures or approaches to quality assurance of micro-credentials in line with Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the system-level policies and frameworks.

The recommendations and guidelines cover the following **topics:**

1. Involvement of stakeholders
2. Inclusion in the NQF
3. Learning outcomes
4. Assessment
5. Design
6. Recognition of prior learning
7. Level
8. Workload
9. Quality
10. Supplement to micro-credential
11. Transparency
12. Support to implementation
13. Learning pathway

4. Legal and Institutional Framework

Armenia, in response to the challenges and recommendations outlined internationally, has taken steps to develop and implement regulatory approaches to integrate micro-credentials into its educational framework. The key challenges Armenia face included a lack of regulatory framework, clarity in quality and recognition for micro-credentials, the need for standardized terminology, and the absence of clear legal provisions specifically

addressing smaller units of learning. Armenia has worked towards addressing these issues and developing a regulatory framework that aligns with European approaches.
Development of micro-credential regulatory framework in Armenia is accompanied by a **roadmap** that takes into account the approach and recommendations mentioned above. This roadmap reflects the strategic steps Armenia intends to follow in order to effectively integrate micro-credentials into its education system, ensure quality assurance, and make them widely recognized both domestically and internationally.

The draft Law of the Republic of Armenia on Higher Education and Science provides the foundation for implementing micro-credentials:

4.1 Definition

In the draft of the Law, micro-credentials are defined as a certificate registered as a result of an assessment confirming the acquisition of certain professional knowledge and skills by a learner as a result of training in a non-degree educational program or in a non-formal education format, which can be used both separately, as a basis for employment, and as a component of an educational program granting a qualification, if the given program leading to micro-credential is accredited and as a result of it, ECTS credits are awarded, as well as if such an opportunity is provided for by the educational program.

4.2 Institutional Roles

- Universities are authorized to develop and deliver micro-credential programs.
- These programs can function independently or contribute credits toward bachelor's and master's degrees.

4.3 Certification and Recognition

- Certificates are issued in a standard format defined by the institution, approved by the MOESCS.
- Data on micro-credentials, including digital versions, are registered in the national qualifications and license registry.
- Accredited micro-credential programs that assign ECTS credits are subject to national quality assurance and accreditation procedures.

4.4 Quality Assurance

- Micro-credential programs are evaluated and accredited through the same mechanisms as formal academic programs.
- Institutional and programme accreditation is mandatory for credit-bearing credentials.

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5. Strategic Objectives

Armenia aims to achieve the following objectives:

- **Lifelong Learning Promotion**: Facilitate ongoing, modular learning pathways.
- **Labor Market Alignment**: Ensure credential content reflects current workforce needs.
- **Educational Innovation**: Encourage universities to adopt flexible and technology-enabled learning models.
- **European Integration**: Align with EHEA guidelines on micro-credentials and digital credentialing.

6. Implementation Framework

To successfully deploy micro-credentials nationwide, Armenia proposes the following phased approach:

Phase I: Policy Development and Stakeholder Engagement

- Develop national standards and descriptors for micro-credentials.
- Consult with universities, employers, and learners to refine the framework.

Phase II: Capacity Building and Program Development

- Train academic staff on micro-credential design and assessment.
- Develop pilot programs aligned with national and sectoral skills strategies.

Phase III: Digital Infrastructure and Recognition Systems

- Establish a digital credential platform integrated with the national qualifications registry.
- Promote recognition and portability of Armenian micro-credentials within and beyond national borders.

Phase IV: Monitoring and Continuous Improvement

- Conduct periodic reviews of program quality, impact, and uptake.
- Adjust policy and implementation based on feedback and data.

7. Challenges and Considerations

- **Quality Assurance**: Ensuring rigor and credibility across diverse providers.
- **Recognition**: Gaining employer and international acceptance of micro-credentials.
- **Infrastructure**: Developing robust digital systems for credential issuance and tracking.
- **Funding**: Sustaining institutional innovation and participation.

8. Policy Recommendations

1. **Enact National Standards** for micro-credential development, including metadata, workload, and assessment criteria.
2. **Support Universities** in designing micro-credential curricula and integrating them with formal programs.
3. **Establish a Central Digital Registry** to issue, verify, and manage micro-credentials.
4. **Foster Industry Partnerships** to co-develop demand-driven micro-credential offerings.
5. **Align with European Guidelines** to ensure interoperability and global recognition.

9. Conclusion

Micro-credentials offer Armenia an opportunity to future-proof its education system, enabling learners to thrive in a dynamic global economy. By implementing a comprehensive framework for quality, recognition, and digital infrastructure, Armenia can become a regional leader in agile, skills-based learning.

10. References

- Recommendations and Guidelines on Micro-Credentials; The report was prepared in the terms of the activities of the QUATRA – TPG A Working Group on Micro-Credentials.
- Developments of the MICROBOL Erasmus + project
- Draft Law on Higher Education and Science, Armenia
- Armenian Qualifications Framework
- EHEA Principles and Guidelines on Micro-Credentials
- The 2030 Education Development State Program

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ROADMAP FOR MICRO-CREDENTIALS IN ARMENIA'S HIGHER EDUCATION SYSTEM

"MICRO-GEAR MICRO-CREDENTIALS FOR HIGHEREDUCATION SYSTEMS OF GEORGIA AND ARMENIA: SOUTH CAUCASUS LIGHTHOUSE PROJECT"

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Micro-GEAR

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Introduction

A micro-credential is a certified small volume of learning, which is designed to provide the learner with specific knowledge, skills, and competences that respond to societal, personal, cultural or labour market needs. Micro-credentials are emerging as a flexible and scalable solution to address skill gaps and enhance lifelong learning. They provide targeted, verified learning achievements tailored to the labor market's needs. This document outlines a comprehensive roadmap for developing and implementing a micro-credential framework within Armenia's higher education system. It is designed to:

- Address local higher education structures, regulations and strategic priorities by aligning with international best practices.
- Support ongoing education reforms in Armenia.
- Enhance employability and lifelong learning opportunities.

Thus, roadmap outlines objectives, activities, milestones, and expected outcomes for each phase of implementation.

Context and Rationale

The road map is developed with a purpose:

Identify the Urgent Skills Gaps in Armenian Higher Education

- Align micro-credentials with Ministry of Education Science, Culture and Sports strategic priorities (e.g. 2021–2026 Government Program, the 2030 Education Development State Program of RA, etc).
- Map how micro-credentials can contribute to improving employability, upskilling, and reskilling of the workforce.

Alignment with Armenian Higher Education Reforms

- Incorporate micro-credentials into ongoing higher education reforms, especially those aligned with the Bologna Process.
- Ensure compatibility with Armenia's National Qualifications Framework (NQF).
- Ensure that micro-credentials help fulfil institutions' objectives for flexible learning pathways, including lifelong learning, and continuing education options.

Roadmap

1. Policy Development and Stakeholder Engagement

Activities

1. **Contribute to the establishment of the National Micro-credentials Framework** with a goal to provide greater clarity and understanding within the HE sector and amongst learners as to the value and recognition of micro-credentials. The framework should also facilitate transparency, consistency and objectivity in the sector around credit recognition arrangements and the portability of micro-credentials.
    - Form a **working group**(Ministry representatives, HEIs, employers, QA agency, ArmEnic).

- Draft **policy recommendations** on the scope of the micro-credentials, their implementation and alignment with EU approaches.
- Contribute to the ongoing reforms in higher education by drafting policy recommendations on micro-credentials.

2. **Engage Stakeholders**
   - Conduct **consultative workshops** with HEIs, employers, and policymakers.
   - Develop **consensus** on the strategic value of micro-credentials and formalize **implementation strategies**.

Milestones

- **Month 3 (or Quarter 1)**:
  - **Working Group Formed**;
  - **Draft Policy Recommendations** finalized and circulated to key stakeholders.
- **Month 12 (or Quarter 4)**:
  - **Policy Framework/ Recommendations** submitted to the Ministry for further consideration.
  - **Stakeholder Consensus Document** published, outlining shared goals and timelines.

2. Quality Assurance Mechanisms

Activities

1. **Develop Standards**
   - Adapt European best practices to create QA guidelines specific to micro-credentials.
   - Define minimum requirements (learning outcomes, credit/workload, assessment) and establish transparent descriptors.
2. **Implement External and Internal QA**
   - Pilot the QA framework in selected institutions, using external accreditation and internal reviews.
   - Publish revised QA guidelines for wider adoption.

Milestones

- **Month 4–6:**
  - Draft QA Standards completed, reflecting short-course needs and learning outcomes.
  - Pilot Institutions Selected for initial QA testing.
- **Month 9–12:**
  - Pilot QA Assessments completed; feedback integrated.
  - Final QA Framework published; guidelines made available to all HEIs.

3. Integration into National Qualifications Framework and recognition

Activities

1. **Align with Existing ANQF**
   - **Map** micro-credentials to Armenia's NQF levels, ensuring consistent recognition and portability.
   - Hold **technical sessions** with NQF experts to validate credit values and learning outcomes.
   - Develop key elements for fair recognition of micro-credentials ensuring transparency and completeness of information provided by the HEIs in line with the main principles of the Lisbon Recognition Convention.
2. **Standardize Descriptions**

- Develop a **common template** for pilot micro-credentials to describe micro-credentials: learning outcomes, workload (ECTS or comparable system), and credit values.
- Ensure **portability** by detailing how micro-credentials can **stack** into formal qualifications.

Milestones

- **Month 6–9**:
  - **NQF Mapping Document** created; micro-credentials assigned to appropriate levels.
  - **Standard Description Template** finalized, covering outcomes, workload, and credits.
- **Month 12–15**:
  - **Official Recognition** of micro-credentials within the NQF; published guidelines for institutional compliance.

4. Digital solutions

Activities

1. **Adopt Digital Credentialing Platforms**
   - **Assess** existing platforms or develop an **institutional/national solution** for digital badge issuance and verification.
   - Ensure **open standards** to support interoperability and international recognition.

Milestones

- **Month 18**:
  - **Platform Selection/Development** decided; basic functionality outlined (badge issuance, verification).
- **Month 24**:
  - **Pilot Launch of Credentialing Platform** in select institutions; feedback gathered on user experience and security.

5. Pilot Curriculum Development

Activities

1. **Design Relevant Micro-Credentials**
   - Identify **in-demand skills** (IT, agriculture, language proficiency, etc.) and design micro-credentials accordingly.
   - Ensure each course is **stackable**; learners can progress to larger qualifications (diploma, degree).
2. **Collaborate with Industry**
   - Engage **employers** or sector experts in curriculum design to align with **industry standards**.
   - Embed **practical components** (case studies, simulations) to strengthen employability outcomes.

Milestones

- **Month 6–9**:
  - **Initial Micro-Credential Prototypes** developed (short, competency-based units).
  - **Industry Review** sessions held to validate curriculum relevance.
- **Month 12–15**:
  - **Curriculum Finalized** for pilot micro-credentials (with industry endorsements).
  - **Stackable Pathways** documented, detailing credit transfers to formal programs.

6. Awareness and Capacity Building

Activities

1. **Train Stakeholders**
    - Host **workshops and seminars with the involvement of HEIs and industry representatives** to showcase the benefits and mechanics of micro-credentials.
    - Train **educators**, administrative staff, and employers on development, issuance, and usage.
2. **Provide Guidance**
    - Create **online toolkits** (manuals, FAQs, video tutorials) for institutions and individuals.

Milestones

- **Month 3–6**:
    - **Awareness Workshops** conducted for pilot institutions and early adopters.
    - **Initial Guidance Materials** (brochures) distributed.
- **Month 9–12**:
    - **Comprehensive Training Sessions**: Additional seminars for expanded HEI participation and industry partners.
    - **Toolkit Expansion** based on pilot feedback (case studies, success stories added).

7. Monitoring and Evaluation

Activities

1. **Assess Impact**
    - Track **enrollment**, **completion rates**, and **employability outcomes** (job placement, promotions).
    - Use **surveys**, focus groups, and analytics from the digital platform to gather feedback.
2. **Continuous Improvement**
    - Hold **periodic review meetings** with stakeholders to interpret data and adjust policies or curricula.
    - Monitor **global trends** (e.g., European Commission updates) to keep micro-credential practices aligned internationally.

Milestones

- **Month 6–9**:
    - **Baseline Data** collected on pilot micro-credentials (learner demographics, satisfaction levels).
    - **Mid-Term Review** scheduled to address emerging challenges.
- **Month 12–18**:
    - **Impact Reports** published, showing learning outcomes, employability metrics, and stakeholder feedback.
    - **Policy & Practice Refinements** are integrated into QA frameworks and institutional guidelines for ongoing improvement.

Conclusion

This roadmap provides a comprehensive plan for implementing micro-credentials in selected Armenian Higher Education system, focusing on policy development, quality assurance, technological infrastructure, curriculum

design, stakeholder engagement, recognition, and sustainability. By addressing these areas systematically, Armenia can establish a robust system that aligns with international standards and meets national priorities.
Implementing a micro-credential framework in Armenia's higher education system requires careful alignment with national strategic priorities, existing regulations, and international best practices. By focusing on quality assurance, institutional capacity-building, stakeholder engagement, and a robust communication strategy, Armenia can create a sustainable and flexible ecosystem for short, targeted learning opportunities, as well as promote powerful tool for upskilling and reskilling the workforce. This will not only boost employability and competitiveness but also foster a culture of lifelong learning that benefits the country's socioeconomic development.

Key Outcomes

- Policy improvement recommendations for micro-credentials developed and integrated.
- Quality assurance mechanisms established and piloted.
- Digital infrastructure for credentialing operationalized.
- Industry-relevant and modular micro-credential courses launched.
- Enhanced awareness and stakeholder collaboration achieved.
- Regular monitoring and evaluation processes established to drive continuous improvement.

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Appendix

Timeframe	Key Activity	Milestone	Responsible Bodies
Month 1–3	**Policy Recommendations & Stakeholder Engagement** - Form a Working Group	**Working Group**	
Month 3–6	**Quality Assurance Development** - Develop QA framework for micro-credentials (learning outcomes, workload, assessment). - Select pilot HEIs.	**Draft QA Standards Completed Pilot Institutions Selected**	
Month 3–6	**Awareness and Capacity Building** - Conduct awareness workshops for HEIs, policymakers, and employers. - Distribute initial guidance materials.	**Awareness Workshops Held Guidance Materials Published**	
Month 4–6	**Integration into National Qualifications Framework (NQF)** - Map micro-credentials to NQF levels. - Validate alignment with national education standards.	**NQF Mapping Document Completed Standardized Description Template Finalized**	
Month 6–9	**Baseline Data Collection for Monitoring & Evaluation** - Track pilot program enrollment and completion rates. - Collect employer feedback on skill relevance.	**Baseline Data Report Published**	
Month 6–9	**Curriculum Development** - Develop micro-credential courses in priority fields (IT, Agriculture, etc.). - Ensure course stackability with existing programs.	**Initial Micro-Credential Prototypes Developed**	
Month 9–12	**QA Pilot Implementation & Review** - Conduct QA audits in pilot HEIs. - Gather learner feedback. - Adjust QA guidelines as needed.	**Pilot QA Assessments Completed Revised QA Standards Finalized**	
Month 9–12	**Expanded Training & Toolkit Development** - Conduct training sessions for additional HEIs and industry partners. - Expand online toolkit with case studies.	**Comprehensive Training Sessions Held Toolkit Expansion Completed**	
Month 12	**Draft policy recommendations for the implementation of micro-credentials**. - Conduct legal review and gap analysis.	**Established Draft Policy Recommendations Circulated**	

Month 9–12	**Launch of Pilot Micro-Credentials** - Implement courses in selected HEIs. - Issue first batch of digital badges/certificates.	**Pilot Micro-Credentials Running Credentialing Platform Operational**	
Month 12–18	**Impact Evaluation & Refinement** - Conduct mid-term assessment of pilot programs. - Analyze learner/employer feedback.	**Impact Reports Published Adjustments to Policy & QA Based on Findings**	
Month 12–18	**Scaling & Institutional Adoption** - Expand micro-credential offerings to more HEIs. - Establish stackable pathways for long-term qualifications.	**Micro-Credentials Integrated into Degree Pathways**	
Month 18-24	**Continuous Monitoring & International Alignment** - Review global trends and update policies accordingly. - Establish partnerships for international recognition of Armenian micro-credentials.	**Ongoing Global Best Practice Alignment**	
Month 18-24	**Technological Infrastructure Development** - Select or develop a digital credentialing platform. - Implement security and verification standards.	**Platform Selection Finalized Initial Security Measures Implemented**	