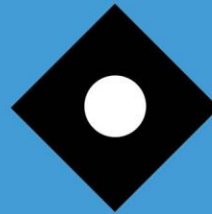


ENHANCE Micro-Credentials Template, June 2021



# ENHANCE micro-credentials Certificates and Labels

## Contents

Executive summary .....	3
1. Introduction.....	7
2. Micro-credentials at ENHANCE .....	9
3. ENHANCE micro-credentials framework: basic concepts .....	10
4. Development of the ENHANCE micro-credentials framework – assumptions .....	12
5. ENHANCE micro-credentials typology .....	12
6. Development process.....	14
7. ENHANCE micro-credentials template .....	14
7.1 Identification of the learner .....	16
7.2 Title of the micro-credential.....	16
7.3 Country/region of the issuer.....	18
7.4 Awarding body .....	18
7.5 Date of issuing .....	19
7.6 Notional workload needed to achieve the learning outcomes (in ECTS, wherever possible) .....	19
7.7 Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF and/or national qualifications framework; Overarching Framework of Qualifications of the European Education Area).....	20
7.8 Learning outcomes.....	20
7.9 Form of participation in the learning activity (online, onsite or blended, volunteering, work experience).....	20
7.10 Prerequisites needed to enroll in the learning activity.....	21
7.11 Type of assessment (testing, application of a skill, portfolio, recognition of prior learning, etc.)..	21
7.12 Supervision and identity verification during assessment* (unsupervised with no identity verification, supervised with no identity verification, supervised online or onsite with identity verification).....	21
7.13 Quality assurance of the credential and, where relevant, of the learning content .....	22
7.14 Grade achieved*.....	22
7.15 Integration/stackability options* (standalone, independent micro-credential/ integrated, stackable towards another credential).....	22
7.16 Further information* .....	23
8. Implementation.....	24
8.1 Technical aspects.....	24
8.2 Proof of concept testing.....	24
9. Future developments .....	25
Annex 1 .....	26
Short forms of education provision conceptually closed to micro-credentials offered by the ENHANCE universities to their students and life-long learners .....	26
i. Offer for students (parts of degree programmes or extracurricular courses).....	26
LLL provision (stand-alone courses/programmes) .....	26
Annex 2 .....	29
ENHANCE micro-credentials typology.....	29

# Template for ENHANCE micro-credentials

## Executive summary

Micro-credentials are an essential part of the ENHANCE joint educational offer. They are viewed as a means to make it more flexible and attractive, not only to traditional students, pursuing bachelor, master or doctoral degree programmes, but also to various groups of life-long learners.

For our traditional students, micro-credentials will create the opportunity to gain additional formally certified competencies, which will frequently be beyond their major field of study. In particular, we are planning to award micro-credentials for service to society based learning activities, such as supporting elderly people in dealing with digital transformation. Taking short courses and other forms of education offered by the Alliance universities in virtual or blended learning format resulting in micro-credentials can also be seen as the measure to customise student education pathways. It can also provide students with international experience to move towards 100% (physical, hybrid or virtual) mobility objective.

By offering micro-credentials we would also like to attract various groups of non-traditional students. It is our intention to address the needs of life-long learners seeking professional development through changing or updating their skills portfolio and actively engaging with new technologies. We also aim to address the needs of those learners who wish to enhance their personal competencies and the needs of various groups of disadvantaged learners who otherwise would not be able to enter the university community. Therefore, offering various short-term forms of learning certified by micro-credentials would be a way to respond to the needs of society and a part of our societal mission.

The ENHANCE micro-credentials will be developed jointly with partners from industry, local governments and non-profit organizations, so that to meet the needs of various stakeholders, The micro-credentials will initially be offered as certified courses or groups of courses focusing on specific issues relevant to the mission of the Alliance: digital transformation, transformation for the green economy etc. However, their format and thematic scope will be gradually extended based on our gained experience.

With a wide spectrum of micro-credentials intended for different target groups, we need a joint micro-credentials framework - the systematic description of concepts, rules, procedures and processes related to micro-credentials, developed and implemented at the ENHANCE universities. We assume that this framework will be applicable not only to jointly developed ENHANCE micro-credentials (defined in the ENHANCE proposal, and other ones to be developed within the initial 3-year project period and in the future), but also - at least to some extent - to the existing and planned short-term forms of education offered by each Alliance university,

The essential part of the ENHANCE micro-credentials framework and the subject of this report is the ENHANCE micro-credential template – the precisely defined list of critical information elements that describe a micro-credential. The proposed structure of information in the ENHANCE micro-credentials template follows the EU standard for constitutive elements of micro-credentials presented in December 2020 by the European Commission Consultation Group. According to this standard, the description of a micro-credential will contain the following elements with some of them, marked with an asterisk (\*), being optional:

- identification of the learner
- title of the micro-credential
- country of the issuer
- awarding body
- date of issuing
- notional workload needed to achieve the learning outcomes (in ECTS)
- level of the learning experience leading to the micro-credential (EQF level)
- learning outcomes
- form of participation in the learning activity
- prerequisites\* needed to enrol in the learning activity
- type of assessment
- supervision and identity verification during assessment\*
- quality assurance of the credential and, where relevant, of the learning content
- grade achieved\*
- integration/stackability options\*
- further information\*

In the report, these elements are described in detail and interpreted in the context of the ENHANCE micro-credentials framework.

The key component of the ENHANCE micro-credentials framework, necessary to develop the micro-credentials template, is the micro-credentials typology. This typology defines the types of micro-credentials and for each type specifies its name and its basic characteristics that include:

- profile (focus/orientation of learning outcomes and content),
- primary target group (traditional students, life-long learners),
- typical forms of learning activity (course/group of courses, special purpose MOOC(s), summer schools etc.),
- quality assurance mechanisms, including methods for assessment of learning outcomes,
- specification of the workload (whether or not the number of ECTS points is given and, if so, the range of ECTS points that can be assigned),
- specification of the level (whether or not the reference/assignment to the EQF level is given),
- stackability (whether or not it may be combined into larger credentials or qualifications).

In the proposed typology of ENHANCE micro-credentials, there are two basic groups of micro-credentials:

- certificates.
- badges.

In this way we distinguish between ECTS-bearing micro-credentials with the rigid quality assurance which includes thorough formal assessment of learning outcomes (certificates), and the other type of micro-credentials (badges).

There are two subcategories of ENHANCE certificates:

- certificates of academic achievement, with their learning outcomes and content, comprising an essential component of knowledge, focused on specific (sub)area/discipline of engineering or transdisciplinary competences; such certificates are primarily intended for traditional bachelor, master or doctoral students,
- certificates of specialisation/professional achievement, with their learning outcomes and content focused on application of knowledge and/or development of skills in some (sub)area/discipline relevant for the labour market or professional development/career; such certificates are primarily intended for life-long learners who want to change their skills portfolio to increase their competitiveness in the labour market.

The certificates of both subcategories are assigned ECTS points and EQF level; some of them are stackable which means that they can be recognised as the components of larger credentials.

Unlike certificates, badges can be awarded with rather non-formal methods of assessment of learning outcomes or even based on participation in learning activities. They are not assigned ECTS points or EQF level and are, in general, non-stackable.

As in the case of certificates, there are two subcategories of ENHANCE badges:

- badges of achievement which are based on a wide spectrum of education provision open to general public (traditional and non-traditional students of all age groups); this can include some courses developed for the purpose of degree programmes or continuing education, made available (usually in the form of MOOCs) to other learners with no credit awarded, but also special offerings that respond to the needs of various groups of society (secondary school students, senior citizens etc.),
- badges awarded for service-based learning and volunteering, offered primarily to traditional students for their work for the benefit of local communities or society at large..

Different forms of learning activities that could lead to an ENHANCE micro-credential (both certificates and badges) are envisioned. These forms can be classified with regard to:

- the mode of delivery (on-site/on-campus, on-line, blended, hybrid),
- organisation of the learning activity (course(s), in particular, MOOC(s), training session, workshop, summer school, service-based learning, volunteering etc.).

Anticipating numerous problems similar to those encountered when joint degrees/diplomas are issued by institutions from different countries, we have decided that micro-credentials will be awarded by individual universities - members of the ENHANCE Alliance on behalf of the Alliance. This means that the certification document will be signed by an eligible person from the relevant university and both the logo of that university and the logo of the ENHANCE Alliance will appear on the printed version of the document.

The publication of this report in July 2021 does not end the work on the ENHANCE micro-credentials template. The template will likely be adjusted to the developments taking place in the coming months and years and taking into account in particular:

- the initiatives of institutions of the European Union and developments taking place within the European Higher Education Area,
- the further consultation with external stakeholders, including associated partners,
- the implementation issues (other activities within WP2.2),
- the experience with application of the proposed template to ENHANCE micro-credentials being developed in 2021-2023,
- the experience with application of the micro-credentials framework, including the proposed template, to various forms of short-term education provision (MOOCs, short programmes etc.) offered individually by the Alliance universities (currently and in the near future).

# Template for ENHANCE micro-credentials<sup>1</sup>

## 1. Introduction

In recent years, a trend towards diversification of education provision by higher education institutions can be observed. In addition to traditional bachelor, master or doctoral degree programmes, various new short, more flexible, learner-centred forms of education and training that fit the needs of a wider range of learners have been offered. Also other public and private providers offer different forms of short-term education and training targeting various groups of learners.

This is the response to the changes on the labour market, where a growing number of adults, with a higher education degree or lower, will have to reskill and upskill to fill the gap between the competencies acquired through initial formal learning and emerging knowledge and skills needed. In particular, the COVID-19 crisis has resulted in a substantial increase in demand for various forms of flexible on-line continuing education and training offered by higher education institutions and other providers<sup>2</sup>.

These alternative forms of learning are offered under different names<sup>3</sup>, leading to confusion and problems with their understanding, recognition and appreciation by prospective learners and employers. This has resulted in an effort, in particular in Europe, to address this issue and develop measures that would allow interested stakeholders to better understand and recognise the value of various forms of short education and training programmes and the resulting credentials, for which the term “micro-credentials” is currently increasingly commonly used.

Although the development of various forms of micro-credentials is primarily market-driven, they are beneficial not only for professionals who would like to update their competences or acquire new competences that would give them a better position on the labour market. Micro-credentials, especially those offered by higher education institutions, bring benefits to students enrolled in traditional degree programmes, complementing or supplementing these programmes, in particular through enhancing students’ opportunities to develop transferable skills useful for their future careers.

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<sup>1</sup> As explained in section 3, in the proposed European standard, the term “micro-credentials” is used to denote credentials related to all forms of short learning experience. Therefore, the phrase “template for micro-credentials, ENHANCE Certificate and Labels” used in the ENHANCE Proposal submitted in early 2020 to describe the deliverable resulting from the development of templates for various forms of joint short-term education provision offered by the ENHANCE Alliance has been changed to “Template for ENHANCE micro-credentials”.

<sup>2</sup> D. Orr, M. Pupinis, and G. Kirdulyte, *Towards a European approach to micro-credentials: a study of practices and commonalities in offering micro-credentials in European higher education*, NESET report, Publications Office of the European Union, Luxembourg 2020

<sup>3</sup> *Micro-credentials and Bologna Key Commitments State of play in the European Higher Education Area*, MICROBOL, February 2021,

Micro-credentials also create new opportunities for various groups of non-traditional students – life-long learners. They address the needs of those who would like to enhance their personal competencies and also create pathways into tertiary education for various groups of learners from disadvantaged backgrounds. With the demographic changes observed in Europe, it is of a key importance to create the education offer for elderly people that would allow for active ageing in the digital age. Therefore, offering various short-term forms of learning certified by micro-credentials can be seen as the essential part of the “third mission” of universities and their social responsibility.

Micro-credentials have the high potential of social impact. They allow people to maintain and acquire various competences that enable them to participate fully in society, ensure their personal, social and professional empowerment, and thereby create better lives and better opportunities for all. Therefore, micro-credentials are high on the agenda of various political initiatives taking place at the European level. This is reflected in several documents of the European Commission, including:

- the communication on achieving the European Education Area by 2025<sup>4</sup>,
- the updated Digital Education Action plan<sup>5</sup>,
- New Skills Agenda for Europe<sup>6</sup>.

Several research projects on micro-credentials have been supported by the European Commission, including MICROBOL (Micro-credentials linked to the Bologna Key Commitments) and MicroHE<sup>7</sup>, resulting in reports presenting, inter alia, problems with the development of the European approach to micro-credentials.

Another initiative of the European Commission is the establishment of the Micro-Credentials Higher Education Consultation Group, whose task is to propose a common definition and the EU standard for constitutive elements of micro-credentials. The report of this Consultation Group<sup>8</sup>, published in December 2020, has been an essential element of the consultation process initiated by the European Commission in May 2021. This process will end up with the Commission proposal for a Council Recommendation on micro-credentials for lifelong learning and employability (planned for the last quarter of 2021), to be adopted by the Council of Ministers in 2022.

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<sup>4</sup> *Communication on Achieving the European Education Area by 2025*, COM(2020) 625 final, European Commission, Brussels, 30.09.2020

[https://ec.europa.eu/education/resources-and-tools/document-library/eea-communication-sept2020\\_en](https://ec.europa.eu/education/resources-and-tools/document-library/eea-communication-sept2020_en)

<sup>5</sup> *Digital Education Action Plan 2021-2027: Resetting education and training for the digital age*, European Commission, 2020

[https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan\\_en](https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en)

<sup>6</sup> *European Skills Agenda for Sustainable Competitiveness, Social Fairness And Resilience*, European Commission, 30.06.2020, <https://ec.europa.eu/social/main.jsp?catId=1223>

<sup>7</sup> <https://microcredentials.eu> [accessed 4 June 2021]

<sup>8</sup> *A European Approach to Micro-Credentials: Output of the Micro-Credentials Higher Education Consultation Group*, December 2020

[https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials\\_en](https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials_en)



In this context, it is expected that the significant progress will be made as a result of the European Universities Initiative with European Universities developing and testing micro-credentials, thereby paving the way for other higher education institutions to follow. In fact, several European Universities alliances, including European Consortium of Innovative Universities (ECIU) and Young Universities for the Future of Europe (YUFE), have already reported some achievements in this area.

High expectations regarding the contribution of the European Universities to the development of micro-credentials have been emphasised in a recent European Commission document for the meeting with rectors of European Universities<sup>9</sup>, where one of its 6 sections is devoted to the European approach to micro-credentials.

## 2. Micro-credentials at ENHANCE

Micro-credentials are an essential part of the ENHANCE joint educational offer. They are viewed as a means to make it more flexible and attractive, not only to traditional students, pursuing bachelor, master or doctoral degree programmes, but also to various groups of life-long learners.

For our traditional students, micro-credentials will create an opportunity to achieve additional competencies, frequently beyond the major field of study, and have them formally certified. In particular, we are planning to award micro-credentials for service to society based activities, intended to promote new technologies. Taking short courses and other forms of learning resulting in micro-credentials, offered by the Alliance universities in virtual or blended learning format, can also be seen as a measure to customise student education pathways and provide them with international experience to move towards 100% (physical, hybrid or virtual) mobility objective.

By offering micro-credentials we would also like to attract various groups of non-traditional students. It is our intention to address the needs of life-long learners seeking professional development through changing or updating their skills portfolio and actively engaging with new technologies. We also aim to address the needs of those learners who wish to enhance their personal competencies and the needs of various groups of disadvantaged learners who otherwise would not be able to enter the university community. Therefore, offering various short-term forms of learning certified by micro-credentials would be a way to respond to the needs of society and a part of our societal mission.

Conceptually, micro-credentials are not new to the ENHANCE universities. Various forms of short-term forms of education intended for both traditional and non-traditional students that can be treated as micro-credentials have been offered for many years. The examples of such offerings are given in Annex 1. The related experience has been used when developing the ENHANCE micro-credentials framework/template and will be used when developing ENHANCE micro-credentials.

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<sup>9</sup> *Background note: Targeted consultation with rectors of European Universities, 27 April 2021*, European Commission, Directorate-General for Education, Youth, Sport and Culture

The ENHANCE micro-credentials, developed jointly by the ENHANCE universities, will initially be offered as certified courses or groups of courses focusing on specific issues relevant to the mission of the Alliance: digital transformation, transformation for the green economy etc. Their format and thematic scope will, however, be gradually extended based on the experience gained. They will be developed jointly with partners from industry, local governments and non-profit organisations to meet the needs of various stakeholders.

The examples of educational offerings leading to micro-credentials that are to be developed and implemented jointly by the Alliance within the initial 3-year period of cooperation, mentioned in the ENHANCE Proposal, include:

- MOOC “Responsible innovators of tomorrow”,
- ENHANCE summer school on climate action,
- ENHANCE summer school on sustainable cities,
- ENHANCE Label in data literacy,
- ENHANCE Label in climate action,
- ENHANCE life-long learning course leading to micro-credential in digital transformation,
- ENHANCE life-long learning course leading to micro-credential in transformation for the green economy,
- ENHANCE summer schools in sustainable entrepreneurship,
- ENHANCE Certificate in sustainable entrepreneurship,
- ENHANCE Certificate in higher education teaching.

### 3. ENHANCE micro-credentials framework: basic concepts

The main purpose of this report is to define the ENHANCE micro-credential template. To introduce the concept of the micro-credentials template, we have to specify what micro-credentials are and define other relevant concepts, such as micro-credentials framework and micro-credentials typology/taxonomy.

As stated in many reports, a shared and transparent definition of micro-credentials is the key to their development and uptake. Many different definitions of micro-credentials have been proposed. The majority of them state that a micro-credential is a small volume of learning certified by a credential. For instance, certificates, badges and some MOOCs are referred to as the examples of micro-credentials. The other examples of micro-credentials are given, inter alia, in the MICROBOL report<sup>10</sup>.

In the earlier mentioned report of the European Commission Consultation Group<sup>11</sup>, a micro-credential is defined in the following way:

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<sup>10</sup> *Micro-credentials linked to the Bologna Key Commitments*, Desk research report, European project MICROBOL, September 2020

<https://microcredentials.eu/wp-content/uploads/sites/20/2020/09/MICROBOL-Desk-Research-Report.pdf>

<sup>11</sup> *A European Approach to Micro-Credentials: Output of the Micro-Credentials Higher Education Consultation Group*, December 2020

[https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials\\_en](https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials_en)

*A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards.*

*The proof is contained in a certified document that lists the name of the holder, the achieved learning outcomes, the assessment method, the awarding body and, where applicable, the qualifications framework level and the credits gained. Micro-credentials are owned by the learner, can be shared, are portable and may be combined into larger credentials or qualifications. They are underpinned by quality assurance following agreed standards.*

As stated by the authors of this report, the proposed definition is intended to be valid across all sectors of education and the world of work. It also appears to mirror the societal mission of higher education institutions.

This definition is likely to be adopted in the future EU documents, and therefore we will use it as a starting point in the discussion on the ENHANCE micro-credentials framework.

*The ENHANCE micro-credentials framework* is the systematic description of concepts, rules, procedures and processes related to micro-credentials, developed and implemented at the ENHANCE universities.

An essential part of the micro-credentials framework is the micro-credential template.

*The micro-credential template* is a precisely defined list of critical information elements that describe a micro-credential. Such critical information elements must give complete information essential for the learner (micro-credential holder) and other interested stakeholders, e.g. employers.

In this sense, the proposed EU standard for constitutive elements of micro-credentials, introduced by the European Commission Consultation Group, essentially defines elements of a micro-credential template. We rely on that standard when defining *the ENHANCE micro-credential template*. The general statements on the subsequent micro-credential elements of this generic information structure are interpreted in the context of expectations and needs formulated in the ENHANCE Proposal, submitted in February 2020 and experience with the work on this project, but also, at least to some extent, national and institutional determinants.

The key part of the work on the development of the ENHANCE micro-credentials framework, including the micro-credentials template, is to define the *micro-credentials typology*<sup>12</sup>. The ENHANCE micro-credentials typology defines the types of micro-credentials and, for each type, specifies its name and its basic characteristics (see section 5).

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<sup>12</sup> It can also be referred to as the ENHANCE micro-credentials taxonomy or classification of ENHANCE micro-credentials.

## 4. Development of the ENHANCE micro-credentials framework - assumptions

When developing the ENHANCE micro-credentials framework and, in particular, the ENHANCE micro-credentials typology, it is assumed that this framework:

- is applicable not only to jointly developed ENHANCE micro-credentials (defined in the ENHANCE Proposal, and other ones to be developed within the initial 3-year project period and in the future), but also - at least to some extent - to the existing and planned short-term forms of education offered by each Alliance university<sup>13</sup>,
- is applicable to micro-credentials offered not only to traditional students (students enrolled for bachelor, master or doctoral degree programmes), but also addressing the needs of learners of all age groups from secondary school onwards<sup>14</sup>.

In order to promote trust in ENHANCE micro-credentials across different countries and educational and economic sectors, we have to make our framework easily understood and recognisable by potential beneficiaries. It should comply with the emerging European standards and, at the same time, be flexible enough to allow for the development of various types of micro-credentials which would be attractive for a wide spectrum of traditional and non-traditional students, not limited to students of the Alliance universities. We should, therefore, avoid overregulation - excessive rules and constraints that would make the ENHANCE micro-credentials framework difficult to adapt to the current and future developments at the level of the Alliance and its individual universities and expected regulations at the European level. This might be not an easy task taking into account the diversity of existing concepts for micro-credentials (globally) and on-going work in this area.

## 5. ENHANCE micro-credentials typology

As stated earlier, the key part of the work on the development of the ENHANCE micro-credentials framework, including the micro-credential template, is to define the micro-credentials typology (taxonomy). The ENHANCE micro-credentials typology, as the name indicates, defines the types of micro-credentials. Each type is defined by its name and its basic characteristics that include:

- profile (focus/orientation of learning outcomes and content),
- primary target group (traditional students, life-long learners),
- typical forms of learning activity (course/group of courses, special purpose MOOC(s), summer schools etc.),
- quality assurance mechanisms, including methods for assessment of learning outcomes,
- specification of the workload (whether or not the number of ECTS points is given and, if so, the range of ECTS points that can be assigned),

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<sup>13</sup> In addition to micro-credentials compliant with the ENHANCE micro-credentials framework, each university can develop and offer their students/learners other types of micro-credentials.

<sup>14</sup> As declared in the Mission Statement of the ENHANCE Alliance.

- specification of the level (whether or not the reference/assignment to the EQF level is given),
- stackability (whether or not it may be combined into larger credentials or qualifications),
- examples from the ENHANCE Proposal,
- examples from the educational offer of the ENHANCE universities.

The proposed typology of ENHANCE micro-credentials is given in Annex 2.

Regarding the names of micro-credentials, the proposed typology uses terms given, as examples, in the earlier cited MICROBOL report, where two categories of certificates (academic and professional, with professional being awarded by non-academic institutions) and various types of badges are defined.

Our typology conceptually follows the general classification of micro-credentials proposed by the German Rectors Conference (Hochschulrektorenkonferenz)<sup>15</sup> in which micro-degrees and badges are identified as two major types of micro-credentials.

The following remarks can be made regarding the proposed typology:

- It follows the recommendation of being simple, flexible and easy to extend. In particular, subcategories of micro-credentials within each of the identified type of micro-credentials have been proposed. However, they serve mainly for information purposes and are not seen as components of names of micro-credentials used in formal documents. It is probably better to postpone more detailed considerations regarding these subcategories, especially their names, until upcoming decisions/recommendation at the European level are taken.
- Borders between the proposed types of micro-credentials and, in particular, between their subcategories, are – at this stage of the development of the typology – somewhat blurred and will likely remain that way, as this is also the case with other classifications of micro-credentials.

It should be emphasised that the proposed typology is intended for ENHANCE micro-credentials, i.e. micro-credentials bearing the ENHANCE logo and automatically recognised among the ENHANCE universities. This means that individual universities can offer and award other types of micro-credentials.

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<sup>15</sup> *Micro-Degrees und Badges als Formate digitaler Zusatzqualifikation*, Empfehlung der 29. Mitgliederversammlung der HRK am 24. November 2020, <https://www.hrk.de/positionen/beschluss/detail/micro-degrees-und-badges-als-formate-digitaler-zusatzqualifikation/>

## 6. Development process

The proposal for the ENHANCE micro-credentials template has been developed by the working group composed of 23 members representing all Alliance universities and the Student Forum and led by Warsaw University of Technology.

It has been presented, discussed and consulted at the institutional level in all ENHANCE universities using the procedure established autonomously by each institution.

Short reports on the progress of the work, in particular on the development of the ENHANCE micro-credentials typology, have been presented at meetings of the statutory bodies of the Alliance (VPs for Education, Steering Committee).

The draft version of this report has been sent for comments to the following associated partners:

- Le Groupe des Écoles Centrale,
- ASIIN Consult GmbH,
- SEFI,
- Siemens.

This version of the report, revised on the basis of the outcomes of the consultation process submitted by 30 June, will be presented to the ENHANCE Steering Committee - the body which will make the final decision on its adoption.

## 7. ENHANCE micro-credentials template

As mentioned earlier, the information structure in the ENHANCE micro-credentials template will follow the EU standard for constitutive elements of micro-credentials proposed in December 2020 by the European Commission Consultation Group<sup>16</sup>.

According to this standard, a micro-credential (document obtained by a person who is awarded that micro-credential) contains the following elements:

1. Identification of the learner
2. Title of the micro-credential
3. Country/region of the issuer
4. Awarding body
5. Date of issuing
6. Notional workload needed to achieve the learning outcomes (in ECTS, wherever possible)
7. Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF and/or national qualifications framework; Overarching Framework of Qualifications of the European Education Area)
8. Learning outcomes

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<sup>16</sup> *A European Approach to Micro-Credentials: Output of the Micro-Credentials Higher Education Consultation Group, December 2020,*

[https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials\\_en](https://ec.europa.eu/education/education-in-the-eu/european-education-area/a-european-approach-to-micro-credentials_en)

9. Form of participation in the learning activity (online, onsite or blended, volunteering, work experience)
10. Prerequisites\* needed to enrol in the learning activity
11. Type of assessment (testing, application of a skill, portfolio, recognition of prior learning, etc.)
12. Supervision and identity verification during assessment\* (unsupervised with no identity verification, supervised with no identity verification, supervised online or onsite with identity verification)
13. Quality assurance of the credential and, where relevant, of the learning content
14. Grade achieved\*
15. Integration/stackability options\* (standalone, independent micro-credential / integrated, stackable towards another credential)
16. Further information\*

Some of these elements, marked with an asterisk (\*), are optional.

In what follows, all these elements are described and interpreted in the context of the ENHANCE micro-credentials framework, thereby defining the ENHANCE micro-credentials template.

## 7.1 Identification of the learner

The learner is identified through his/her personal data:

- a) first and last name(s),
- b) date of birth,
- c) nationality,
- d) student identification number or code (if available)<sup>17</sup>,
- e) other data, specified in the standard to be adopted in the European Higher Education Area.

## 7.2 Title of the micro-credential

Following the proposed typology of ENHANCE micro-credentials (see Annex 2), two basic names/titles of micro-credentials are introduced:

- certificates,
- badges<sup>18</sup>.

In this way we distinguish between ECTS-bearing micro-credentials with the rigid quality assurance, including thorough formal assessment of learning outcomes (certificates) and the other type of micro-credentials (badges).

As stated earlier, this idea conceptually follows the general classification of micro-credentials proposed by the German Rectors Conference, in which micro-degrees and badges are identified as two major types of micro-credentials.

There are two types/categories of ENHANCE certificates:

- certificates of academic achievement, alternatively referred to as academic certificates,
- certificates of specialisation/professional achievement, alternatively referred to as specialisation certificates.

The major distinction between these two categories of certificates is made on the basis of their profile (focus, content, learning outcomes) and the primary target group:

- for certificates of academic achievement (academic certificates), their learning outcomes and content, comprising an essential component of knowledge, focus on specific (sub)area/discipline of engineering or transdisciplinary competences; such certificates are primarily intended for traditional bachelor, master or doctoral students,
- for certificates of specialisation/professional achievement (specialisation certificates), their learning outcomes and content focus on application of knowledge and/or development of skills in some (sub)area/discipline relevant for the labour market or professional development/career; such certificates are primarily intended for life-long learners who want to change their skills portfolio to

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<sup>17</sup> this is included in the Diploma Supplement

<sup>18</sup> We have decided not to use the term “label” proposed in the ENHANCE Application, as it is infrequently used in the literature on micro-credentials and can be misunderstood.



increase their competitiveness in the labour market, but do not see a degree programme as a viable education option.

The example certificates of academic achievement to be developed jointly by the Alliance within the initial 3-year project period (as stated in the ENHANCE Proposal) include:

- ENHANCE Certificate in sustainable entrepreneurship and innovation,
- ENHANCE Certificate in responsible innovations (awarded following the formal assessment of learning outcomes defined for MOOC “Responsible innovators of tomorrow”),
- ENHANCE Certificate in sustainable cities (awarded following the formal assessment of learning outcomes defined for the summer school on sustainable cities).

The certificates of specialisation/professional achievement to be developed jointly by the Alliance within the initial 3-year project period (as stated in the ENHANCE Proposal) include:

- ENHANCE Certificate in higher education teaching (intended primarily for academic staff of Alliance universities, but open to academic staff of other universities),
- ENHANCE Certificate in digital transformation (awarded following the formal assessment of learning outcomes defined for the life-long learning course on digital transformation, developed jointly by the Alliance).

In some cases, it might be quite difficult to decide whether to classify a particular micro-credential as a certificate of academic achievement or a certificate of specialisation/professional achievement. However, this does not create a significant problem because this classification is rather informal – used primarily for information purposes. Besides, most features of these two types of certificates, in particular those related to quality assurance, are identical or similar. Their profile (academic or professional) will be determined by the description of learning outcomes, in which the relevant profile can be specified explicitly.

Badges are seen as a means to confirm specific knowledge or, more frequently, transversal 21st century skills and/or personal or social competences of learners (traditional or non-traditional students), acquired through various forms of learning activity offered or organised by the ENHANCE universities.

The main difference between certificates and badges lies in the approach to the assessment of learning outcomes. In case of certificates, the assessment procedures are very formal, whereas badges can be awarded on the basis of rather non-formal assessment of learning outcomes or even on the basis of participation in learning activities.

There are two types/categories of ENHANCE badges:

- badges of achievement which are based on a wide spectrum of education provision open to general public (traditional and non-traditional students of all age groups); this can include some courses developed for the purpose of degree programmes or continuing education, made available (usually in the form of MOOCs) to other learners with no credit awarded, but also special offerings that respond to the needs of various groups of society (secondary school students, senior citizens etc.),

- badges awarded for service-based learning and volunteering<sup>19</sup>, offered primarily to traditional students for their work for the benefit of local communities or society at large; such service-based learning can, for example, be associated with supporting elderly people in dealing with digital transformation, or various activities supporting the ENHANCE Alliance (serving on the ENHANCE bodies, involvement in organising ENHANCE events and other form of integrating the ENHANCE community, promoting the ENHANCE Alliance etc.).

This differentiation is not reflected in the names of badges, i.e., the term “badge” is used for both categories.

The example micro-credentials to be developed jointly by the Alliance within the initial 3-year project period, that can be called badges, mentioned in the ENHANCE Proposal, include:

- ENHANCE Badge in data literacy<sup>20</sup>,
- ENHANCE Badge - student ambassador, awarded for promoting the ENHANCE Alliance in local schools.

### **7.3 Country/region of the issuer**

See section 7.4.

### **7.4 Awarding body**

Awarding a micro-credential jointly by the Alliance creates a number of problems related to, inter alia, legal regulations and quality assurance, similar to those encountered when joint degrees/diplomas are issued by institutions from different countries. It has, therefore, been decided that micro-credentials are awarded by individual universities - members of the ENHANCE Alliance on behalf of the Alliance. This means that the certification document will be signed by an eligible person from the relevant university and both the logo of that university and the logo of the ENHANCE Alliance will appear on the printed version of the document.

In case of a micro-credential that involves education activities offered by a single university, this solution appears quite obvious and easy to implement.

The matter gets more complicated if a micro-credential comprises learning activities carried out by different universities, i.e. is to be awarded:

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<sup>19</sup> Volunteering is one of the forms of participation in the learning activity that could lead to a micro-credential, explicitly mentioned in the standard for constitutive elements of micro-credentials, introduced by the European Commission Consultation Group (see section 7.9).

<sup>20</sup> In the ENHANCE Proposal, this prospective macro-credential is called “ENHANCE Label in data literacy”. However, as explained earlier, we have decided not to use the term “label”, as it is infrequently used in such a context and can, therefore, be misunderstood.

- upon completion of a certain number of learning units/modules offered by different universities<sup>21</sup>,
- upon completion of a module developed and taught jointly by academic staff of two or more universities<sup>22</sup>.

In this case, the following solutions are possible:

- a) the micro-credential is awarded by the home university of the learner,
- b) the micro-credential is awarded by the university which had the leading role in the development of this micro-credential,
- c) the micro-credential is awarded by the university which offers most learning activities associated with this micro-credential.

As solution (a) might create difficulties with non-traditional students and even more serious problems with students from outside of the Alliance, either (b) or (c) is to be adopted. The decision might be made for all ENHANCE micro-credentials of the considered category or each micro-credential individually.

## **7.5 Date of issuing**

The date of issuing an ENHANCE micro-credential (a document obtained by the learner who is awarded that micro-credential) should correspond to the date when all requirements associated with that micro-credential are satisfied by the learner.

## **7.6 Notional workload needed to achieve the learning outcomes (in ECTS, wherever possible)**

In principle, ENHANCE certificates are assigned ECTS points. The possible exceptions for some specialisation/professional certificates can be considered, especially in case when the difficulties in measuring of the learner's effort or developing a dependable learning outcomes assessment procedure are encountered.

Regarding the range of ECTS points assigned to certificates, two somewhat contradictory premises should be considered:

- a micro-credential should confirm some essential/meaningful volume of learning outcomes so that it would be worth being included in the person's CV/portfolio,
- lower limit would increase flexibility (stackability) of micro-credentials.

The most flexible solution would be to set a minimum of 1 ECTS point with an upper limit of "less than a full degree". It is recommended, however, that ENHANCE certificates are assigned at least 3 ECTS points.

In contrast to certificates, badges are not assigned ECTS points.

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<sup>21</sup> This is likely to be the case with the *ENHANCE Certificate in higher education teaching*, being developed within WP3, task 3.3: content of Higher Education Innovator.

<sup>22</sup> This happens, for example, when the Collaborative Online International Learning (COIL) concept is applied.

## **7.7 Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF and/or national qualifications framework; Overarching Framework of Qualifications of the European Education Area)**

As each ENHANCE micro-credential has learning outcomes defined (see section 7.8), potentially we can assign an EQF level to it – by mapping those learning outcomes onto the European Qualifications Framework (EQF). In practice, however, such a mapping might be quite difficult to do as EQF level descriptors are formulated in rather general terms. In particular, in the case when transdisciplinary skills and personal or social competencies are major components of the set of learning outcomes, it might be quite difficult to justify mapping them onto a particular EQF level. Therefore, we assume that:

- ENHANCE certificates are assigned EQF levels; the possible exceptions for some specialisation/professional certificates can be considered;
- badges of achievement can or cannot be assigned EQF levels, depending on the definition of their learning outcomes and possibility to refer them to the EQF,
- service-based badges are not assigned EQF levels.

Another decision related to levelling of ENHANCE micro-credentials is whether or not micro-credentials at EQF level lower than 6 can be offered. Taking into account that we intend to offer an opportunity to obtain ENHANCE micro-credentials to a wide spectrum of learners, developing and offering some micro-credentials at level 5 is a reasonable solution.

## **7.8 Learning outcomes**

A set of guidelines is to be developed on how to define and present learning outcomes for ENHANCE micro-credentials in a consistent way<sup>23</sup>.

As many ENHANCE micro-credentials (certificates and selected badges) are to be assigned EQF levels, we should formulate their learning outcomes so that to make mapping those learning outcomes onto the EQF as simple as possible. This means that the recommended method of formulating and presenting the learning outcomes for ENHANCE micro-credentials is to classify them, explicitly or implicitly, in three categories that are used in the definition of the EQF level descriptors, i.e. *knowledge*, *skills* and *responsibility and autonomy*<sup>24</sup>.

## **7.9 Form of participation in the learning activity (online, onsite or blended, volunteering, work experience)**

A wide spectrum of different forms of learning activities that could lead to an ENHANCE micro-credential are envisioned.

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<sup>23</sup> This task is related to defining learning outcomes for degree programmes (another task in WP2)

<sup>24</sup> Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning

(2017/C 189/03), Annex II, Official Journal of the European Union, 15.06.2017

These forms can be classified with regard to:

a) the mode of delivery (determined by physical proximity of the teacher and the learner)

the basic modes are: on-site/on-campus, on-line and blended; when different forms of participation are possible and the learner can select one of them (on-site/blended or on-line), we would refer to such a form as hybrid;

b) organisation of the learning activity

possible forms are: course (in particular, MOOC), group of courses (MOOCs), training/workshop, summer school, service-based learning, volunteering etc.;

c) timeframe

some forms of learning activity (courses, training sessions, summer schools, ...) are offered in a specific timeframe, whereas other forms (some MOOCs, most service-based learning and volunteering activities) allow for self-paced learning.

### **7.10 Prerequisites needed to enroll in the learning activity**

This element is optional, but for some ENHANCE micro-credentials, especially for certificates, specification of prerequisites needed to enrol in the learning activity, might be useful and recommended.

In general, such prerequisites should be defined in terms of knowledge and skills expected from the learner. Only in specific cases, formal requirements (such as holding a university degree in specific subject area) are to be formulated.

### **7.11 Type of assessment (testing, application of a skill, portfolio, recognition of prior learning, etc.)**

Various types/methods of learning outcomes assessment can be adopted, depending on the type of a micro-credential, learning outcomes and forms of participation in the learning activity (mode of delivery, organization of the learning activity). Generally, for certificates, the assessment procedures are formal and comprehensive, whereas badges can be awarded with significantly less formal methods of assessment or even based on participation in learning activities.

Whatever methods of learning outcomes assessment are adopted for a particular micro-credential, they are part of the micro-credential description.

### **7.12 Supervision and identity verification during assessment\* (unsupervised with no identity verification, supervised with no identity verification, supervised online or onsite with identity verification)**

This element is optional, but in case when the assessment of learning outcomes for a particular micro-credential involves tests/examinations, the method of supervision and identity verification during assessment is part of the micro-credential description.

### **7.13 Quality assurance of the credential and, where relevant, of the learning content**

It has been decided that micro-credentials are awarded by individual universities – members of the ENHANCE Alliance on behalf of the Alliance (see section 7.4). Therefore, the principles and procedures for quality assurance used by universities for their degree programmes (based on internal procedures or national quality assurance mechanisms) should also be applied to micro-credentials. This is essential for micro-credentials bearing ECTS points. However, the appropriate quality assurance in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) should also be adopted for other micro-credentials.

An alternative solution, i.e. relying on an international quality assurance agency (ASIIN, ENAEE/EUR-ACE, ...) might be considered as an option that would make a particular ENHANCE micro-credential more attractive for life-long learners seeking their international visibility and recognition among prospective employers. But such solution should not be seen as the one applicable to all ENHANCE micro-credentials.

Regardless of the approach taken, the quality assurance process is the part of the ENHANCE micro-credential description.

It should be taken into account that the implementation of a complex quality assurance system for ENHANCE micro-credentials would be difficult, especially at the beginning of a project. It would, therefore, be more useful to agree on some basic standards and enhance them based on experience gained with pilot implementations.

The problem of assuring quality of ENHANCE micro-credentials should also be considered in a wider context – assuring quality of all jointly developed components of the ENHANCE education offer.

### **7.14 Grade achieved\***

This element is optional. However, the grade might be an essential element of the description for some micro-credentials, especially those that are stackable and can be recognised as a partial fulfilment of the requirement for a degree. If grades are given, the grading system of the university that awards the micro-credential is adopted.

Then, some grade conversion tool available to all European universities, such as EGRACONS<sup>25</sup>, can be applied if the grade is to be interpreted in the context of a degree programme offered at some other university.

### **7.15 Integration/stackability options\* (standalone, independent micro-credential/ integrated, stackable towards another credential)**

Micro-credentials can be:

- stand-alone, independent units of learning; this is usually the case with micro-credentials relevant for the labor market or professional development; most badges also belong to this category;

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<sup>25</sup> EGRACONS: Grade Conversion System, <http://egracons.eu> [accessed 25.06.2021]

- a unit of learning (course, module) or an internally coherent composition of a number of units of learning related to a specific topic or field, being a component of one or more conventional bachelor, master or doctoral degree programmes or non-degree programmes offered to life-long learners; such a unit of learning or collection of units of learning is obviously stackable, i.e. can be recognised as a partial fulfilment of requirement for a “larger” credential/qualification.

It would be desirable to decide to what extent parts of degree programmes offered by ENHANCE universities can be converted into micro-credential (determine criteria for such a conversion) and offered as such to those who, for various reasons, do not see a degree programme as a viable education option.

In this context, it is worth emphasizing the fact that a collection of micro-credentials is not a substitute for a bachelor or master degree; it might, however, be a valuable addition to the university degree.

### **7.16 Further information\***

Besides the constitutive elements (defined in the proposed EU Standard) included in a document owned by the learner, the characteristics of a micro-credential may, optionally, include additional information. Any further information on a particular micro-credential may serve two purposes:

- providing a person who considers participation in the education activity leading to this micro-credential with additional information that would facilitate his/her decision,
- making the document obtained by the learner more valuable/informative for stakeholders (employers etc.).

Such additional information can be the part of the micro-credential template or just the part of the description of a particular micro-credential presented to prospective learners on the portal that contains the ENHANCE education offer.

For an ENHANCE micro-credential, its basic characteristics (described in sections 7.1 – 7.15) can be complemented with the information on:

- general orientation/profile and primary target group (academic, research-oriented, professional, focus on transversal skills, general interest, ...),
- language(s) of instruction,
- availability (limited to selected groups of students, e.g. students enrolled for degree programmes at ENHANCE universities, open to general public, etc.),
- duration - time it takes to complete the education/training activities necessary to get this micro-credential, if not specified in the description of the form of participation in the learning activity; this time usually remains undefined for self-paced learning,
- fees, if applicable, for registration, examination, issuing a document confirming the micro-credential etc.,
- form of the document acknowledging the micro-credential (digital-only, paper document, other options),
- partnership with external organisation (e.g. not limited to ENHANCE associated partners) in developing the micro-credential,

- appreciation (employers or employers' associations recommendation, professional associations acceptance for licensing purposes etc.)

and possibly other information.

In case of a micro-credentials with a specified EQF level, the field (ISCED code) can be additionally specified in line with "Elements for data fields for the electronic publication of information on qualifications with an EQF level"<sup>26</sup>.

In general, the need for additional information and its scope are to be determined individually for a particular micro-credential. As alluded to earlier, such information can be included in the "Further information" part of the document acknowledging the micro-credential or be part of the micro-credential description presented by the ENHANCE Alliance and the university awarding the micro-credential to potential learners.

## 8. Implementation

### 8.1 Technical aspects

The critical information elements of each ENHANCE micro-credential issued by one of the Alliance universities, defined by the ENHANCE micro-credentials template, must be available to the micro-credential holder, but also to other interested stakeholders (other higher education institutions, employers, etc.).

It remains to be decided whether all these information elements should be included in a single document or be distributed between the main document and its supplement (like in the case of a diploma acknowledging a bachelor or master degree<sup>27</sup>). Such a decision should, however, be made at the European level.

Regarding the digital representation of ENHANCE micro-credentials, the Europass Digital Credentials Infrastructure<sup>28</sup> or some other accepted standard should be used.

### 8.2 Proof of concept testing

The proposed template will be tested in the process of development of specific ENHANCE micro-credentials. Currently, the *ENHANCE Certificate in higher education teaching*, being developed within WP3 (task 3.3: content of Higher Education Innovator) is used for that purpose.

In the coming months, the template will be tested using prospective micro-credentials associated with:

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<sup>26</sup> Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning

(2017/C 189/03), Annex VI, Official Journal of the European Union, 15.06.2017

<sup>27</sup> A document acknowledging a micro-credential should be clearly identified as such and differ from a diploma acknowledging a bachelor or master degree.

<sup>28</sup> Europass Digital Credentials Interoperability, <https://europa.eu/europass/en/europass-digital-credentials-interoperability> [accessed 27 May 2021]



- summer school climate change (possible final project: green campus),
- language tandems.

## 9. Future developments

The delivery of the template for ENHANCE micro-credentials (publication of the report) in July 2021 does not end the work on the ENHANCE micro-credentials framework. The template will likely to be adjusted to the developments taking place in the coming months and years, taking into account, in particular:

- further consultation with external stakeholders, including associate partners,
- implementation issues (other activities within WP2.2),
- initiatives of institutions of the European Union and developments taking place within the European Higher Education Area<sup>29</sup>,
- experience with application of the proposed template to ENHANCE micro-credentials being developed in 2021-2023,

experience with application of the micro-credentials framework, including the proposed template, to various forms of short-term education provision (MOOCs, short programmes etc.) offered individually by the Alliance universities (currently and in the near future).

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<sup>29</sup> Consultation process initiated by the European Commission in May 2021; Commission proposal for a Council Recommendation on micro-credentials for lifelong learning and employability (expected in the last quarter of 2021); Adoption by the Council of Ministers of the Council Recommendation on micro-credentials for lifelong learning and employability, incl. common definition and EU standard (2022); definition and key features / standards for micro-credentials to be adopted within the EHEA, together with the 2024 Communiqué of the Bologna Process Ministerial Conference

## Annex 1

Short forms of education provision conceptually closed to micro-credentials offered by the ENHANCE universities to their students and life-long learners

### I. Offer for students (parts of degree programmes or extracurricular courses)

Chalmers

- Some MOOCs can be combined into a Micro-Master's degree. This degree can be credited towards course work corresponding to 22,5 ECTS in some specific Chalmers' Master of Science programmes after enrolment in such programmes

NTNU

- ATHENS courses (intensive one-week courses for local and international students)

PoliMi

- extracurricular courses (Passion in Action), ECTS, digital badge, note in Diploma Supplement

RWTH

- Micro-Bachelor (in Data Literacy); 3 basic courses + 4 advance course; planned as part of all RWTH degrees programmes

TUB

- Sustainability Certificate, sequence of courses, 6 ECTS each course, 18 ECTS for the Certificate
- TUB Summer University Online Program 2021, multiple courses, ECTS (counting towards a degree for students; open to non-students)
- Interdisziplinäre Gender Studies, module of 6 courses, 30 ECTS
- Chinakompetenz, 3-6 courses or module and/or language course, 18 or 36 ECTS, open to students from Berlin and non-students)

UPV

- Specialised training courses, max 15 ECTS, extracurricular courses, certificate of completion (or attendance) of the course or training, level 5 or 6

WUT

- specialised design courses (Creative Semester Project etc.), ECTS, certificate (counting towards a degree or extracurricular activity)
- summer schools, workshops etc. at advanced level (offered by Centre for Advanced Studies), certificate
- ATHENS courses (intensive one-week courses for local and international students)

### LLL provision (stand-alone courses/programmes)

- professional development
- general interest (personal development)

## 1. MOOCs

Chalmers (specialised advanced-level MOOCs)

- on edX [global outreach, no ECTS, certificate on request]

NTNU (MOOCs of general interest)

- on FutureLearn [global outreach, no ECTS, certificate on request]
- on digit.ntnu.no (Open edX)/Canvas [national outreach, 7.5 ECTS, certificate]
- on digit.ntnu.no (Open edX) [national/regional/local outreach, no ECTS, certificate]

PoliMi (MOOCs of general interest)

- on pok.polimi.it [national outreach, no ECTS, certificate of accomplishment]

RWTH

- online software courses (for MATLAB, Python, R and Excel) for all students – additional voluntary course to build and improve IT skills (no ECTS).

UPV (MOOCs of general interest)

- on edX [global outreach, no ECTS, certificate on request]
- on upvx (Open edX) [national/regional/local outreach, no ECTS, no credential]

WUT (specialised MOOCs)

- on navoica.pl (Polish MOOC platform) [national outreach]

## 2. part-time non-degree programmes [mostly professional development, certificate of completion]

NTNU

- post-graduate, minimum 30 ECTS (legal regulation), 30-45 ECTS, EQF level: 6,7,8

UPV

- post-graduate, 15-30 ECTS (legal regulation), EQF level 7
- post-graduate, 30-60 ECTS (legal regulation), EQF level 7
- post-graduate, 60+ ECTS (legal regulation), EQF level 7
- graduate, 15-30 ECTS (legal regulation), EQF level 6

WUT

- post-graduate, minimum 30 ECTS (legal regulation), 30-45 ECTS, EQF level: 6,7,8

## 3. specialised training [professional development]

NTNU

- training in innovative teaching (obligatory for NTNU academic staff), no ECTS, no EQF level, certificate of completion
- foreign language training (for NTNU staff and students), no ECTS, no EQF level, certificate of completion

TUB

- Intercultural Knowledge and Competence (for TUB community), 3 ECTS, EQF level: 6,7, certificate

UPV

- wide spectrum of topics, maximum 15 ECTS (legal regulation), EQF level: 5,6, certificate of completion or certificate of attendance

WUT

- wide spectrum of topics, no ECTS, no EQF level, certificate of completion
- foreign language training (for WUT staff), no ECTS, no EQF level, certificate of completion
- training in innovative teaching (for WUT academic staff), no ECTS, no EQF level, certificate of completion
- training in management (for WUT academic staff), no ECTS, no EQF level, certificate of completion

#### 4. **other**

UPV

- “Senior University”, series of lectures or training sessions (wide spectrum of topics of general interest) for senior citizens, no ECTS, no EQF level, certificate of completion or certificate of attendance

WUT

- series of lectures or training sessions (wide spectrum of topics of general interest) for senior citizens, no ECTS, no EQF level, certificate of completion or certificate of attendance
- series of lectures or workshops for children, no ECTS, no EQF level, certificate of participation

## Annex 2

### ENHANCE micro-credentials typology

type/category	sub-type/sub-category <sup>30</sup>	content, focus	target group	typical form of learning activity <sup>31</sup>
certificate <sup>32</sup>	academic certificate or certificate of academic achievement	<ul style="list-style-type: none"> <li>- learning outcomes, activities and formative assessment in a specific (sub)area/discipline of engineering or transdisciplinary competences</li> <li>- essential component of knowledge</li> </ul>	mostly “traditional” bachelor, master and doctoral students	<ul style="list-style-type: none"> <li>- group of courses from a first- or second-cycle degree programme focused on some specific topic</li> <li>- special purpose course/MOOC<sup>33</sup> (or a group of courses/MOOCs)</li> <li>- short learning programme (group of courses/MOOCs with a common subject)</li> <li>- summer school</li> </ul>
	specialisation certificate or certificate of specialisation /professional achievement	<ul style="list-style-type: none"> <li>- learning outcomes, resources, activities and assessment in a specific (sub)area relevant for the labour market or professional development/career</li> <li>- focus on application of knowledge and/or development of skills</li> </ul>	mostly life-long learners	<ul style="list-style-type: none"> <li>- dedicated/specialisation course</li> <li>- short learning programme (group of courses/MOOCs with a common subject)</li> <li>- workshop/training session</li> </ul>

<sup>30</sup> (for information/internal use)

<sup>31</sup> various delivery modes (face-to-face/on-campus, on-line, blended, hybrid) are possible

<sup>32</sup> „larger” certificates in this category (corresponding to a group of courses etc.) can be referred to as micro-degrees

<sup>33</sup> the term MOOC is used in a broad sense (including SPOC - Small Private On-line Course)

badge	badge of achievement	<ul style="list-style-type: none"> <li>- learning outcomes, resources, activities and (automated) feedback in specific area of academic or professional knowledge, transversal 21<sup>st</sup> century skills and/or personal or social competences</li> </ul>	<p>general interest (students and life-long learners);</p> <p>for personal and professional development (in case of supplementary learning, students can be given note in Diploma Supplement)</p>	<ul style="list-style-type: none"> <li>- special purpose course/MOOC (or a group of courses/MOOCs)</li> <li>- bootcamp/workshop/training programme</li> <li>- special offerings responding to the needs of various groups of society (secondary school students, senior citizens etc.),</li> </ul>
	service-based badge	<ul style="list-style-type: none"> <li>- personal or social competences resulting from service-based learning</li> </ul>	<p>“traditional” bachelor, master and doctoral students</p>	<ul style="list-style-type: none"> <li>- various forms of service-based learning of students, incl. volunteering</li> </ul>

type/category	sub-type/sub-category <sup>34</sup>	quality assurance	ECTS	EQF	stackability
certificate	academic certificate or certificate of academic achievement	formal summative assessment of learning outcomes by ENHANCE universities	YES minimum 3 ECTS (recommended)	YES level 5, 6, 7 or 8	- stackable: may be combined into larger credentials or qualifications (in particular, ECTS earned can be applicable towards a degree) or - stand-alone: essential component in student supplemental qualification (given note in the Diploma Supplement)
	specialisation certificate or certificate of specialisation /professional achievement	formal summative assessment of learning outcomes by ENHANCE universities or automated verification of completion of task requirements	YES (in principle, exceptions possible) minimum 3 ECTS (recommended)	YES level 5, 6, 7 or 8	- stackable: may be taken in connection with other course offerings or - stand-alone: an entity by itself
badge	badge of achievement	micro-credential can be awarded on the basis of participation/task completion	NO	YES or NO level 5,6,7	stand-alone

<sup>34</sup> (for information/internal use)

	service-based badge	micro-credential awarded for task completion	NO	NO	stand-alone
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type/category	sub-type/sub-category <sup>35</sup>	examples from the ENHANCE proposal	examples from the educational offer of ENHANCE universities
certificate	academic certificate or certificate of academic achievement	<p>ENHANCE Label in climate action (?)</p> <p>ENHANCE Certificate in sustainable entrepreneurship and innovation</p> <p>MOOC “Responsible innovators of tomorrow”</p> <p>ENHANCE summer school on climate action</p> <p>ENHANCE summer school on sustainable cities</p>	<p>Chalmers: specific MOOCs combined into a Micro-Master’s degree</p> <p>RWTH: Micro-Bachelor in Data Literacy</p> <p>NTNU, WUT: ATHENS courses (intensive one-week courses for local and international students)</p> <p>TUB: Sustainability Certificate</p> <p>TUB: Interdisziplinäre Gender Studies</p> <p>UPV: specialised training courses (extracurricular)</p> <p>WUT: specialised design courses (Creative Semester Project etc.)</p> <p>all ENHANCE universities: selected MOOCs (with assessment provision)</p>
	specialisation certificate or certificate of specialisation /professional achievement	<p>ENHANCE life-long learning course leading to micro-credential in digital transformation</p> <p>ENHANCE life-long learning course leading to micro-credential in transformation for the green economy</p> <p>ENHANCE Certificate in higher education teaching</p>	<p>NTNU, UPV, WUT: post-graduate part-time non-degree programmes</p> <p>NTNU: training in innovative teaching (obligatory for NTNU academic staff)</p> <p>TUB: Intercultural Knowledge and Competence (for TUB community)</p> <p>UPV: specialised training courses (extracurricular)</p>

<sup>35</sup> (for information/internal use)

			<p>WUT: training in innovative teaching, training in management (for WUT academic staff)</p> <p>all ENHANCE universities: selected MOOCs (with assessment provision)</p>
badge	badge of achievement	<ul style="list-style-type: none"> <li>- ENHANCE Label in data literacy</li> <li>- ENHANCE Label in climate action (?)</li> </ul>	<p>PoliMi: part of Passion in Action offer</p> <p>WUT, UPV: series of lectures or training sessions (wide spectrum of topics of general interest) for senior citizens (WUT's University of the Third Age, UPV's Senior University)</p> <p>RWTH: online software courses (for MATLAB, Python, R and Excel) for all students – additional voluntary course to build and improve IT skills (no ECTS).</p>
	service-based badge	- various forms of service-based learning (to be defined)	