WP4 – Micro-credentials a path to social inclusion and response to public responsibility for Higher Education

4.4. Piloting report of the programme design grid

Project: NEW BUILDING BLOCKS OF THE BOLOGNA PROCESS: FUNDAMENTAL VALUES (NEWFAV)

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Contents

EXECUTIVE SUMMARY

The “New building blocks of the Bologna Process: fundamental values (NewFAV)” project aimed to explore the concept of micro-credentials as a path to social inclusion and response to public responsibility for higher education. Also, the NewFAV project’s purpose was to develop a comprehensive framework for designing and implementing micro-credentials in European higher education, aligning with the Bologna Process principles and addressing the growing demand for flexible, skills-based learning opportunities. A key outcome of the project was the creation of a micro-credential programme design grid, a structured tool designed to guide institutions through the development process.

This report presents the findings of a piloting study conducted with five European universities, including Charles University, the Catholic University of Valencia, West University of Timișoara, the University of Salzburg, and the National and Kapodistrian University of Athens, all of them part of European University Alliances. The piloting study involved applying the grid to existing or planned micro-credential programmes, gathering feedback through surveys and case studies, and analysing the data to assess the grid’s effectiveness, usability, and alignment with current trends.

The piloting study revealed that the grid is a valuable tool for micro-credential development, facilitating the design of high-quality, relevant, and recognised micro-credentials. It was found to be user-friendly, comprehensive, and adaptable to diverse institutional contexts and disciplinary focuses. The grid’s emphasis on flexibility, modularity, and alignment with industry needs resonated with current trends in micro-credentials and curricular design. The study also identified areas for improvement, such as the need for clearer guidance on certain aspects of the grid and greater flexibility to accommodate diverse program structures. These recommendations will inform the refinement of the grid, ensuring its continued relevance and effectiveness in supporting the development and integration of micro-credentials in the European Higher Education Area (EHEA).

INTRODUCTION

1. Project Background

The "New building blocks of the Bologna Process: fundamental values – NewFAV" project is a direct response to the evolving landscape of European higher education, particularly considering the growing prominence of micro-credentials. Micro-credentials, as flexible, short-form certifications of specific skills and competencies, have emerged as a valuable tool for recognising diverse forms of learning, both within and outside traditional academic settings. The NewFAV project recognises the transformative potential of micro-credentials in enhancing lifelong learning opportunities, promoting upskilling and reskilling, and addressing the evolving needs of the modern workforce.

However, the successful integration of micro-credentials into the European Higher Education Area (EHEA) hinges on their alignment with the fundamental values of the Bologna Process. These values, which emphasise quality assurance, transparency, recognition, and the promotion of lifelong learning, are the cornerstones of a cohesive and high-quality European educational landscape. The project is committed to ensuring that the development and implementation of micro-credential programmes adhere to these principles, thereby contributing to the overall strength and integrity of the EHEA.

The project's focus on social inclusion is particularly noteworthy. Micro-credentials have the potential to make education more accessible and inclusive by offering flexible pathways for learners from diverse backgrounds. NewFAV aims to explore and harness this potential, ensuring that micro-credentials serve as a tool for social mobility and empowerment.

In essence, the NewFAV project represents a pivotal initiative in shaping the future of European higher education. By establishing a framework for the design and implementation of micro-credential programmes that are firmly grounded in the fundamental values of the Bologna Process, the project aims to foster a more inclusive, responsive, and innovative educational ecosystem. This, in turn, will better equip individuals and institutions to navigate the complexities of the 21st-century knowledge economy.

2. Grid Development

The development of the grid for micro-credential programme design was a core outcome of the NewFAV project. Recognising the need for a structured approach to creating high-quality, relevant, and Bologna Process-aligned micro-credentials, the project team embarked on a rigorous process to develop this tool. The grid was designed to be comprehensive, user-friendly, and adaptable to the diverse contexts of European higher education institutions. It incorporates best practices and insights from existing micro-credential initiatives, as well as the expertise of academics, educational leaders, and stakeholders across the EHEA. It specifically responds to the EHEA Rome Communiqué's call for the exploration of micro-credentials' contribution to social inclusion and public responsibility in higher education.

The grid's development was based on a thorough analysis of current trends and challenges in micro-credential design and implementation. This analysis included a review of relevant literature, consultations with experts, and a survey of existing practices at various institutions, including those participating in the European Universities Initiative. The findings of this analysis were then synthesised into a set of guiding principles and practical recommendations, which form the basis of the grid. The grid itself is structured around three key components: general information, activity design, and activity content. Each component includes a series of fields and prompts that guide users through the process of defining the scope, objectives, target audience, learning outcomes, assessment methods, and other essential aspects of a micro-credential programme. By following the grid's framework, institutions can ensure that their micro-credentials are well-designed, aligned with European standards, and responsive to the needs of learners and the labour market.

Furthermore, the grid serves as a foundation for piloting and testing micro-credential programmes within the context of European University Alliances. This piloting process is crucial for gathering feedback, refining the grid, and ultimately ensuring its effectiveness in supporting the development and integration of micro-credentials across the EHEA.

3. Piloting Objectives

The piloting of the micro-credential programme design grid was a crucial step in the NewFAV project. It aimed to assess and refine a tool designed to support the development of high-quality, Bologna-aligned micro-credentials that also contribute to social inclusion and public responsibility in higher education, as per the recommendations in the EHEA Paris and Rome Communiqués. The piloting sought to achieve several key objectives, responding to the need for a structured, comprehensive, and user-friendly approach to micro-credential design and implementation:

1. **Applicability and Usability**

   Assess the practicality and effectiveness of the grid as a tool for designing diverse micro-credential programmes across various disciplines and institutional contexts. This involved examining how well the grid's structure and fields guided users through the design process and whether it accommodated the unique requirements of different types of micro-credentials. In particular, the piloting sought to determine if the grid could be effectively used to design both micro-credentials and micro-programmes, as outlined in the grid document.

2. **Alignment with Bologna Process Values**

   Evaluate the extent to which the grid facilitated the development of micro-credentials that align with the fundamental values of the Bologna Process, including quality assurance, transparency, recognition, and lifelong learning. This involved examining how the grid addressed issues such as learning outcomes, assessment, and certification in a way that upholds these values. The piloting also aimed to explore how the grid could support the integration of micro-credentials into larger qualifications frameworks, such as joint / multiple degree programmes and the future European Degrees.

3. **Impact on Curricular Innovation**

   Explore the grid's potential to stimulate curricular innovation within higher education institutions and European University Alliances. This involved investigating whether the grid encouraged the development of new and innovative micro-credential programmes that respond to emerging societal and labour market needs. The piloting process sought to understand how the grid could be used to design micro-credentials that address specific skills gaps and promote lifelong learning opportunities.

4. **Feedback and Refinement**

   Gather comprehensive feedback from users on their experiences with the grid, including its strengths, weaknesses, and areas for improvement. This feedback was crucial for refining the grid and ensuring its relevance and effectiveness as a tool for widespread adoption. The piloting process aimed to collect both quantitative and qualitative feedback through surveys and case studies to inform the revision of the grid.

5. **Feasibility and Scalability**

   Determine the feasibility of implementing the grid within different institutional contexts and to assess its potential for scalability across the EHEA. This involved examining the resources and support required for successful implementation and identifying any potential barriers or challenges. The piloting process sought to understand the specific needs and constraints of different institutions, particularly those participating in European University Alliances, to ensure the grid's adaptability and relevance.

6. **Contribution to Social Inclusion**

   Investigate how the grid could be leveraged to promote social inclusion through micro-credentials. This involved exploring whether the grid facilitated the design of micro-credentials that cater to diverse learners, including non-traditional students and those from underrepresented groups. The piloting aimed to assess the grid's potential to support the development of micro-credentials that address the needs of specific social groups and contribute to wider social inclusion goals.

By addressing these objectives, the piloting process aimed to not only validate the grid's effectiveness but also to contribute to the broader understanding of how micro-credentials can be leveraged to enhance the quality, relevance, and inclusivity of the EHEA, in line with the goals of the NewFAV project and the wider Bologna Process. The piloting also sought to assess the feasibility and utility of the 12-step checklist proposed in the grid as a practical guide for institutions embarking on micro-credential development. The feedback gathered during the piloting will be invaluable in refining both the grid and the checklist, ensuring that they are robust, user-friendly, and capable of supporting the widespread adoption and effective implementation of micro-credentials across the EHEA.

METHODOLOGY

1. Participants in the piloting phase of the grid

The piloting study engaged a diverse group of universities from across Europe, contributing to the development and refinement of the proposed grid. Their participation enriched the piloting process through the provision of case studies and valuable feedback on the programme design grid, ensuring a comprehensive and multifaceted assessment. Moreover, each of these universities plays a significant role in the advancement of the EHEA through their involvement in European University Alliances, micro-credentials development, joint European degrees, and other innovative initiatives.

- **Charles University (Prague, Czech Republic)**

  One of the largest and oldest universities in Central Europe, with a comprehensive range of disciplines and a strong research focus. It is a member of the 4EU+ European University Alliance.

- **Catholic University of Valencia (Valencia, Spain)**

  A prominent private university located in the coastal city of Valencia, known for its innovative teaching methods and focus on social impact. It is a member of the EU-Conexus European University Alliance.

- **West University of Timișoara (Timișoara, Romania)**

  A dynamic university in western Romania, actively engaged in regional development and international cooperation. It is a member of the UNITA European University Alliance.

- **Paris Lodron University of Salzburg (Salzburg, Austria)**

  A renowned public university with a strong emphasis on the humanities and social sciences, located in the culturally rich city of Salzburg. It is a member of CIVIS European University Alliance.

- **National and Kapodistrian University of Athens (Athens, Greece)**

  The largest and oldest university in Greece, with a diverse range of faculties and a long tradition of academic excellence. It is a member of CIVIS European University Alliance.

This diverse range of participants ensured that the piloting study captured a broad spectrum of perspectives and experiences from across the European higher education landscape. The variety in institutional size, geographical location, and engagement in European University Alliances contributed to a comprehensive and multifaceted assessment of the proposed framework, ensuring its relevance and applicability to a wide range of institutions.

2. Piloting Process

The piloting process for the micro-credential programme design grid involved a structured approach to gather comprehensive feedback and assess its utility in real-world scenarios. Participants, consisting of academics and administrative staff from the selected universities, were guided through four distinct stages:

1. **Grid Familiarisation**

   Participants were initially provided with the grid document (NewFAV deliverable D4.3.) and a detailed report explaining its development, rationale, and underlying principles. This allowed them to thoroughly understand the grid's purpose, structure, and the information required in each section. The grid was designed to be user-friendly, but this initial familiarisation ensured that participants could navigate it effectively and provide informed feedback.

2. **Application to Existing or Planned Micro-credential Programmes**

   Participants were then tasked with applying the grid to either an existing micro-credential programme at their university or a new programme in the planning stages. This practical application served a dual purpose: it allowed participants to test the grid's usability and relevance in their specific contexts, and it generated valuable data on how the grid could be used to design or evaluate micro-credentials in diverse settings.

3. **Completion of Feedback Survey**

   Upon completing the grid application, participants were asked to provide structured feedback through a comprehensive survey consisted of Likert scale questions to assess their overall impressions of the grid and open-ended questions to gather detailed feedback on each section. Additionally, the survey included a 12-step checklist for micro-credential programme design, and participants were asked to evaluate its feasibility and usefulness. This structured feedback mechanism allowed for the collection of both quantitative and qualitative data, providing a nuanced understanding of the grid's strengths and weaknesses.

4. **Case Study Development**

   To further enrich the piloting study, participants were given the option to develop a case study detailing their experience with the grid. This involved documenting how they applied the grid, the challenges they encountered, and the outcomes they achieved. These case studies provide valuable insights into the practical application of the grid and its potential impact on micro-credential development within different institutional contexts.

By engaging participants in these four stages, the piloting process aimed to gather comprehensive feedback on the grid's usability, relevance, and potential impact. The combination of structured survey responses and in-depth case studies provided a rich dataset for analysis, informing the refinement of the grid and ensuring its effectiveness as a tool for supporting the development and implementation of high-quality micro-credential programs across the EHEA.

3. Data Collection and Analysis

Data collection for the piloting study was initiated through a targeted dissemination of the survey and grid to UNICA Network universities and FOR-EU alliance (the coordinating body of all European Universities Alliances). This was achieved through a call for expressions of interest, inviting institutions to participate in the study. The call outlined the project's objectives, the purpose of the grid, and the expected commitment from participating institutions. Candidate selection was based on several criteria to ensure a diverse and representative sample:

- **Geographical distribution:** The selection process aimed to include universities from different regions across Europe to capture a wide range of educational contexts and practices.
- **Participation in European University Alliances:** Institutions involved in European University Alliances were prioritised to gain insights into the specific challenges and opportunities related to micro-credential development within these collaborative networks.
- **Strategic interest in developing micro-credentials:** The selection process favoured universities that demonstrated a clear interest and commitment to developing micro-credential programs, ensuring that the piloting study would be relevant and impactful for the participants.
- **Willingness piloting the grid within the proposed timeframe:** Given the project's timeline, it was essential to select institutions that could commit to piloting the grid within the designated period, ensuring timely and meaningful participation.
- **Expertise of proposed persons:** The expertise and experience of the individuals nominated by the universities to participate in the piloting were also considered to ensure the quality and depth of feedback.

The survey was administered through the QuestionPro platform, a secure and user-friendly online survey tool. Participants were provided with the link to the survey and were encouraged to complete it after thoroughly reviewing the grid document and applying it to their micro-credential programme. To further support their responses, participants were also provided with NewFAV deliverable D4.3, which offered additional context and guidance on the project's objectives and the grid's development. The analysis of the collected data focused on two main areas:

1. **Case Studies**

   In-depth examination of specific micro-credential programmes, as described by participants in their case studies, to understand how the grid was applied and its impact on programme design. This analysis involved a detailed review of the case studies, identifying common themes, challenges, and successes in the application of the grid.

2. **Feedback on the Grid**

   Analysis of survey responses to assess the grid's components, applicability, and usability within the broader context of European higher education. This included evaluating the perceived value of the 12-step checklist for micro-credential development. The analysis

involved both quantitative and qualitative methods, including descriptive statistics for Likert scale questions and thematic analysis for open-ended responses.

A notable challenge encountered during the data collection process was the prevalence of survey fatigue among potential participants. This is a common issue in research, where individuals may be hesitant to participate in surveys due to the time commitment required or a perceived lack of relevance to their work. To address this challenge, the project team emphasised the importance of the study and the potential benefits of participation for both the individual institutions and the wider EHEA. The team also ensured that the survey was as concise and user-friendly as possible, minimising the burden on participants. Despite this challenge, the piloting study successfully engaged a diverse group of institutions, providing valuable insights into the effectiveness and potential impact of the micro-credential programme design grid.

FINDINGS

1. Case Studies

1.1. Case Study: Charles University's "Spatial Data Science in Python" Micro-credential

Charles University, a leading public institution in the Czech Republic, applied the NewFAV micro-credential programme design grid to their existing micro-credential course, "Spatial Data Science in Python". The grid, designed to guide the development and evaluation of micro-credentials, was tested against this established course to assess its applicability and effectiveness in a real-world context.

Micro-credential Programme Overview
The micro-credential programme chosen for this case study is titled "Spatial Data Science in Python". This program is designed to empower learners with the skills and knowledge to effectively utilize Python for spatial data analysis, a field experiencing increasing demand across various sectors. The programme specifically targets undergraduate and postgraduate students, doctoral candidates, and lifelong learners who possess a basic understanding of Python and statistics.
General Information
• **Type of Learning Activity:** "Spatial Data Science in Python" was correctly identified as a micro-credential, aligning with the grid's focus on short, focused learning experiences. • **Title and Code:** The course had a clear and descriptive title, along with a unique university-related code (10752) for identification and registration purposes. • **Field of Study / Education and Training:** The course was classified under "Information and Communication Technologies (06)" according to the International Standard Classification of Education (ISCED-F 2013), with a thematic focus on "Data science and programming". • **Coordinating University and Organizing Faculty / School / Department:** The Faculty of Science's Department of Social Geography and Regional Development at Charles University coordinated the course. • **Country and / or Region of the Issuer:** The micro-credential is issued in the Czech Republic, adhering to the country's regulations and practices. • **Stakeholders:** The micro-credential was developed in cooperation with external stakeholders, including O2, ARCDATA PRAHA, and the Czech Statistical Office, demonstrating a collaborative approach to micro-credential development. • **Academic Coordinator and Student Enrolment:** Martin Fleischmann, Ph.D., a researcher at the Department of Social Geography and Regional Development, serves as the academic coordinator. Student enrolment is managed through the university's IT system, with information disseminated via the faculty website and the Centre for Lifelong Learning.

- **Quality Assurance and Certification:** The micro-credential adhered to Charles University's quality assurance mechanisms, including a review by the Internal Evaluation Board. Upon completion, students receive a unique certificate issued by a nationwide system.
- **ECTS Recognition and Tuition & Fees:** The micro-credential awards 4 ECTS credits, which can be counted as electives towards a regular degree. The tuition fee is 15.000 CZK (approximately 600 EUR).
- **Link to Webpage:** A webpage providing further information and registration details is available on the university's website.

Activity Design

- **Target Group and Level:** The micro-credential primarily targets undergraduate and postgraduate students, doctoral candidates, and lifelong learners at EQF Level 6, aligning with the grid's focus on advanced learners.
- **Qualification and General Organisation:** The micro-credential aims to equip learners with the competencies of a data scientist (ESCO 2511.4) and is organized as an intensive one-month program.
- **Workload and ECTS Credit Points:** The total workload is 112 hours, including 30 contact hours and 82 hours of individual work (20 hours of independent study and 62 hours for a computational essay). This aligns with the 4 ECTS credits awarded upon successful graduation.
- **Duration and Type of Delivery:** The micro-credential is delivered entirely online over one month.
- **Implementation Period and Number of Students:** The course runs from December 8th to 16th, 2024, with a capacity of 6-25 students.
- **Practical Work and Objectives:** It includes 62 hours of practical work in the form of a computational essay, aligning with the grid's emphasis on practical skills development. The objective is to acquire skills in the spatial dimension of data science using Python.
- **Prerequisites and Selection Criteria:** Participants need a basic understanding of Python and statistics. Selection is based on applications and fulfilment of prerequisites, evaluated on a rolling basis.
- **Languages and Tools:** The micro-credential is conducted in English (minimum B2 level) and utilizes Google Meet and Google Colab for communication and learning.

Activity Content

- **Scope:** The micro-credential course focuses on the use of spatial data science in the Python programming language. It aims to equip learners with the skills and knowledge to effectively utilise Python for spatial data analysis, a field experiencing increasing demand across various sectors.
- **Competencies:** Upon completion, students will be competent in using Python for spatial data science and will advance their statistical literacy. They will be able to describe advanced concepts of spatial data science, use open tools to load and analyse spatial data, explain the

motivation and inner logic of the main methodological approaches of open spatial data science (SDS), critically evaluate the suitability of specific techniques, apply several spatial analysis techniques and explain how to interpret the results, and work independently using SDS tools to extract valuable insight when faced with a new dataset.

- **Learning Unit / Modules / Activities / Components:** The course is a stand-alone micro-credential course, therefore there are no individual units. However, there are 10 topics that cover the content.
- **Description of the Learning Unit / Module / Activity / Component:**
    - **General Description:** The course covers 10 topics: (1) Introduction to Python for Data Science, (2) Open Data Science, Data manipulation in Python (pandas), (3) Spatial data (geopandas), (4) Spatial relationships (libpysal), (5) Exploratory spatial data analysis (esda), (6) Point patterns (pointpats), (7) Clustering (scikit-learn), (8) Raster data (xarray), (9) Interpolation (tobler, pyinterpolate), and (10) Regression (statsmodels, mgwr).
    - **Student Workload:** The total workload is 112 hours, with 30 hours of contact hours and 82 hours of individual student workload (20 hours of independent study and 62 hours for a computational essay).
    - **ECTS Credit Points:** The course awards 4 ECTS credits (100-120 hours).
    - **Teaching and Learning Methods and Didactical Approach:** The course utilises online teaching, with each of the 10 topics divided into three parts - Concepts, Hands-on, and Exercise, following the model by Arribas-Bel (2019).
    - **Bibliography / Reading List / References:**
        - Sergio Rey, Dani Arribas-Bel, and Levi John Wolf. 2023. Geographic Data Science with Python. Chapman & Hall/CRC Texts in Statistical Science. London, England: Taylor & Francis.
        - Michael Dorman, Anita Graser, Jakub Nowosad, Robin Lovelace. 2024 Geocomputation with Python. Chapman & Hall/CRC Texts in Statistical Science. London, England: Taylor & Francis.
- **Lecturers (Names and Affiliation):** Martin Fleischmann, Ph.D., Faculty of Science, teaches the whole course.
- **Integration / Stackability Options:** The course is stand-alone but can be counted towards a regular degree when the ECTS are counted under electives of a given study programme.
- **Assessment Method(s):** The course is assessed based on a single final assignment - a computational essay, which is an essay whose narrative is supported by code and its results, which are part of the essay.
- **Assessment Criteria:** The course is evaluated on a pass/fail basis. The essay is primarily evaluated on a percentage scale of 0-100. To successfully complete the class, a minimum of 40% is required.

- **Supervision and Identity Verification during Assessment:** Preparation of the assignment is done at home, but with a practical final demonstration on-site, with identity verification.
- **Composition of Final Mark:** The final mark is 100% based on the final assignment - computational essay.
- **Minimal Requirements for Passing the Exam / Learning Activity:** At least 40% from the final assignment and at least 60% participation in the online lectures.
- **Grading System:** Pass/Fail
- **Other Relevant Information:** An assistant is present in the online environment to resolve additional issues via chat and bring them to the attention of the lecturer. A dedicated Discord server is available for asynchronous discussion among participants.

1.2. Case Study: West University of Timișoara's "Forensic Psychology" Micro-programme

West University of Timișoara (UVT), a public university in Romania with a strong focus on research and innovation, applied the NewFAV micro-credential programme design grid to their existing micro-programme, "Forensic Psychology - Assessment and Intervention". The grid was used to evaluate the alignment of this established program with the framework's recommendations for micro-credential design.

Micro-credential Programme Overview

The micro-credential programme chosen for this case study is titled "Forensic Psychology - Assessment and Intervention" (code RNPP 384). This programme is designed to train specialists in the use of specific techniques for forensic psychological evaluation and interventions for rehabilitation. The program specifically targets postgraduate students.

General Information

- **Type of Learning Activity:** UVT's "Forensic Psychology - Assessment and Intervention" was identified as a micro-programme, indicating a more comprehensive learning experience compared to a single micro-credential.
- **Title and Code:** The programme's title clearly reflects its specialised focus, and the code RNPP 384 indicates its registration in the National Register of Postgraduate Programmes.
- **Field of Study / Education and Training:** The programme falls under the "Social sciences, journalism, and information (03)" field according to the International Standard Classification of Education (ISCED-F 2013), with a specific focus on Psychology (ISCED 0313) at level 6.
- **Coordinating University and Organizing Faculty / School / Department:** The programme is coordinated by UVT's Faculty of Sociology and Psychology, specifically the Psychology Department.
- **Country and / or Region of the Issuer:** The micro-programme is issued in Romania, adhering to national regulations and practices.

- **Partner Universities and Stakeholders:** The University of Bonn (Germany) is a partner in the programme, contributing academic team members. Additionally, the Penitentiary of Timișoara and the Penitentiary of Arad are involved as stakeholders, providing practical experience opportunities for students.
- **Academic Coordinator and Student Enrolment:** The academic coordinator is Roxana Toma, an Associate Professor at the Psychology Department within UVT. Student enrolment is managed through an e-learning platform, and information is disseminated through the UVT website, adhering to EU data protection regulations.
- **Quality Assurance and Certification:** The programme is approved by the UVT Senate and Faculty Council and is registered in the National Register of Postgraduate Programs (RNPP). The Quality Management Department oversees the quality assurance process, and graduates receive a certificate of attestation of professional competencies accompanied by a descriptive supplement.
- **ECTS Recognition and Tuition & Fees:** The programme awards 31 ECTS credits for coursework and an additional 2 ECTS for the graduation exam. The tuition fee is 2.800 RON (approx. 580 EUR) per student.
- **Link to Webpage:** Detailed information about the programme, including the admission process, is available on the UVT website.

Activity Design

- **Target Group and Level:** The programme is designed for postgraduate students at EQF Level 6, indicating a focus on advanced learners in the field of psychology.
- **Qualification and General Organisation:** The programme aims to train specialists in forensic psychological evaluation and intervention. It is organised in a modular format, allowing for flexibility in learning.
- **Workload and ECTS Credit Points:** The total workload is 384 hours, comprising 324 contact hours and 60 hours of individual student workload. Even though this would correspond to 15 ECTS credit points (based on the ECTS guide), 31 ECTS credits are awarded for coursework, plus 2 ECTS for the graduation exam.
- **Duration and Type of Delivery:** The programme spans ten months and is delivered through a blended learning approach, combining online and face-to-face components.
- **Implementation Period and Number of Students:** The micro-programme runs from November 2024 to September 2025, having the possibility to accommodate 20-50 students.
- **Practical Work and Objectives:** The programme includes 60 hours of practical activities, aligning with the grid's emphasis on practical skills development. The objectives are to train psychologists in forensic assessment and intervention, specialise in specific aspects of forensic psychology, and manage relationships with forensic professionals.
- **Prerequisites and Selection Criteria:** Applicants must hold a BA in Psychology. There are no specific selection criteria mentioned, suggesting an open admission policy for those who meet the prerequisites.

- **Languages and Tools:** The programme is conducted in Romanian and utilizes tools like Google Meet, Classroom, and Mentimeter for synchronous and asynchronous communication and learning.

Activity Content

- **Scope:** The micro-programme is designed to train specialists in the use of specific techniques for forensic psychological evaluation and interventions for rehabilitation. It aims to equip learners with the knowledge and skills necessary to assess and intervene in forensic settings, addressing the needs of both victims and offenders.
- **Competencies:** Upon completion, students will be competent in the application of psychological tests, analysis of influences on behaviour, conduct of interviews, counselling activities, prevention activities, support for victims, and preparation of scientific reports. These competencies align with the programme's focus on training specialists in forensic psychological evaluation and intervention.
- **Learning Units / Modules / Activities / Components:** The programme is structured into 16 disciplines, including specialised practice in penitentiary and police / tribunal settings, and the completion of a final thesis. This modular structure allows for a comprehensive and in-depth exploration of forensic psychology, covering both theoretical foundations and practical applications.
- **Description of Learning Units / Modules / Activities / Components:** Each discipline within the programme covers both theoretical and practical aspects of forensic psychology. The teaching and learning methods utilise digital tools and are based on the principles of student-centred education, reflecting a modern and engaging pedagogical approach. The specific content, workload, ECTS credits, teaching methods, and bibliography for each discipline are detailed in individual discipline sheets, providing a granular view of the programme's structure and content.
- **Lecturers:** The document does not specify individual lecturers for each discipline, suggesting a collaborative teaching approach involving multiple experts in the field of forensic psychology.
- **Learning Outcomes:** While not explicitly stated in the provided information, the learning outcomes for each discipline are outlined in individual discipline sheets. These outcomes likely specify the knowledge, skills, and competencies that students are expected to acquire upon completion of each discipline, contributing to the overall objectives of the micro-programme.
- **Integration / Stackability Options:** The programme is designed as a stand-alone micro-programme, meaning it is not intended to be integrated or stacked into a larger credential. This suggests that the programme is a self-contained learning experience, providing a comprehensive and specialised training in forensic psychology.
- **Assessment Method(s) and Criteria:** The assessment methods are both formative and summative, including individual portfolios, quizzes, multiple-choice tests, and a final project. This multifaceted approach allows for continuous evaluation of student progress and a comprehensive assessment of their overall learning outcomes. The assessment criteria for

each discipline are detailed in the respective discipline sheets, ensuring transparency and clarity for both students and instructors.

- **Supervision and Identity Verification during Assessment:** Assessments are supervised on-site, ensuring the integrity of the evaluation process. However, identity verification is not conducted during these assessments, which may raise potential concerns about academic integrity.
- **Composition of Final Mark and Grading System:** The final mark calculation varies for each discipline, with some intermediate examinations contributing between 20% and 50% to the final grade. Each subject is graded on a scale of 0 to 10, with a minimum passing grade of 5. This flexible grading system allows for a nuanced evaluation of student performance across different disciplines.
- **Other Relevant Information:** The document does not provide additional information in this section. However, it is worth noting that the programme's emphasis on practical activities and its collaboration with penitentiary institutions suggest a strong focus on real-world application and relevance to the professional field of forensic psychology.

1.3. Case Study: EU-Conexus Alliance's "Smart Urban Coastal Sustainability" Micro-credential

The EU-Conexus Alliance, a network of six European universities committed to smart and sustainable regional development, applied the NewFAV micro-credential programme design grid to their "Micro-credentials in Smart Urban Coastal Sustainability" (SmUCS) initiative. This case study examines how the grid was utilised to evaluate and potentially enhance this existing micro-credential programme.

Micro-credential Programme Overview

The micro-credential programme chosen for this case study is titled "Micro-credentials in Smart Urban Coastal Sustainability" (SmUCS). This programme is designed to bridge the gap between academic learning and professional application, preparing students for successful careers in the field of Smart Urban Coastal Sustainability. The programme specifically targets undergraduate students but is also open to doctoral candidates / students and lifelong learners.

General Information

- **Type of Learning Activity:** The SmUCS initiative was classified as a micro-credential, aligning with the grid's focus on short, focused learning experiences that result in the award of a certification.
- **Title:** The initiative's title, "Micro-credentials in Smart Urban Coastal Sustainability"**,** clearly reflects its thematic focus and the intended learning outcomes.
- **Field of Study / Education and Training:** The SmUCS initiative is interdisciplinary, spanning multiple fields:
  - Arts and humanities (ISCED 02)
  - Social sciences, journalism, and information (ISCED 03)

  - Business, administration, and law (ISCED 04)
  - Information and Communication Technologies (ISCED 06)
  - Agriculture, forestry, fisheries, and veterinary (ISCED 08)

- **Coordinating University and Organizing Faculty / School / Department:** While not explicitly stated, the information suggests that the initiative is coordinated collaboratively by the EU-Conexus Alliance, with each university having its own organising faculty or department.
- **Country and / or Region of the Issuer:** The micro-credentials are awarded by the respective host universities within the EU-Conexus Alliance, indicating a decentralized approach to certification.
- **Partner Universities:** The EU-Conexus Alliance itself comprises the partner universities involved in the initiative:
  - La Rochelle Université (LRUniv)
  - Agricultural University of Athens (AUA)
  - Fundación Universidad Católica de Valencia San Vicente Mártir (Catholic University of Valencia, UCV)
  - Klaipėdos Universitetas (Klaipeda University, KU)
  - Sveučilište u Zadru (university of Zadar, UNIZD)
  - Universitatea Tehnică de Construcții București (Technical University of Civil Engineering Bucharest, UTCB)
  - Universität Rostock (Rostock University, UROS)
  - Frederick University (FredU)

  All these institutions, except Rostock University (UROS), are involved in awarding the micro-credentials.
- **Academic Coordinator and Student Enrolment:** The academic coordinator for the SmUCS initiative at UCV is Amanda Sancho. Student enrolment is facilitated through the Dream Apply platform, and information about the micro-credentials is available on the EU-Conexus website.
- **Quality Assurance and Certification:** Each micro-credential undergoes quality assurance procedures specific to the awarding university. Additionally, the EU-Conexus Alliance has established a framework for micro-credentials to ensure consistency and quality across the initiative. The alliance is also exploring the use of the European Digital Credentials for Learning (EDCL) tool for digital certification.
- **ECTS Recognition and Tuition & Fees:** ECTS recognition for the micro-credentials depends on the internal regulations of each awarding institution. The SmUCS initiative does not charge any fees for participation.
- **Link to Webpage:** The EU-Conexus website provides comprehensive information about the SmUCS initiative, including details on the available micro-credentials and the enrolment process.

Activity Design

- **Target Group and Level:** The SmUCS micro-credentials are primarily targeted at undergraduate students but are also open to doctoral candidates / students and lifelong learners, demonstrating a commitment to inclusivity and diverse learning pathways. The micro-credentials are designed to align with EQF Level 6.
- **Qualification and General Organisation:** The initiative offers 48 different micro-credentials across various fields, reflecting the diverse range of qualifications and skills that can be acquired through the programme. The micro-credentials are organized in an intensive format, suggesting a focused and condensed learning experience.
- **Workload and ECTS Credit Points:** Each micro-credential is designed to be 1 ECTS, corresponding to a workload of 25-30 hours. The workload is divided into 10 contact hours and 15 hours of individual student workload.
- **Duration and Type of Delivery:** The duration of each micro-credential is 5-7 weeks, and they are delivered entirely online, providing flexibility and accessibility for learners.
- **Implementation Period and Number of Students:** The implementation period for the SmUCS initiative spans from October 2024 to July 2025. There is a minimum enrolment of 27 students per micro-credential, but no maximum limit, allowing for scalability and broad participation.
- **Practical Work and Objectives:** The amount of practical work required varies depending on the specific micro-credential. The objectives of the initiative are to enhance learners' expertise in Smart Urban Coastal Sustainability and bridge the gap between academic learning and professional application.
- **Prerequisites and Selection Criteria:** The only prerequisite for enrolment is a B2 level of English proficiency. There are no specific selection criteria mentioned, suggesting an open admission policy for those who meet the language requirement.
- **Languages and Tools:** The micro-credentials are offered in English, and various tools like MS Teams, Moodle, and BigBlueButton are used for synchronous and asynchronous communication and learning.

Activity Content

- **Scope:** The SmUCS initiative is designed to bridge the gap between academic learning and professional application in the field of Smart Urban Coastal Sustainability. It aims to equip learners with the knowledge and skills necessary to address the complex challenges facing coastal urban environments, with a focus on sustainability and innovation.
- **Competencies:** The specific competencies acquired through the SmUCS initiative vary depending on the chosen micro-credential. The programme offers a diverse range of micro-credentials, each focusing on a particular aspect of smart urban coastal sustainability. These competencies are designed to enhance learners' expertise in this field and prepare them for careers in a rapidly changing world.

- **Learning Units / Modules / Activities / Components:** The SmUCS initiative offers 48 different micro-credentials, each with its own unique structure and content. The modular nature of the programme allows learners to tailor their education to their specific interests and career goals.
- **Description of Learning Units / Modules / Activities / Components:** The specific content, workload, ECTS credits, teaching and learning methods, and bibliography for each micro-credential are not detailed in the reference document. However, the information suggests that the micro-credentials are designed to be intensive and focused, with a duration of 5-7 weeks and a workload of 25 hours (1 ECTS). The teaching and learning methods likely vary depending on the specific micro-credential, but the overall emphasis is on bridging academic learning with professional application.
- **Lecturers:** The document does not specify the lecturers for each micro-credential, but it is likely that they are drawn from the partner universities within the EU-Conexus Alliance, ensuring a diverse range of expertise and perspectives.
- **Learning Outcomes:** The specific learning outcomes for each micro-credential are not detailed in the reference document. However, the overall goal of the initiative is to enhance learners' expertise in Smart Urban Coastal Sustainability, suggesting that the learning outcomes are likely to be focused on specific knowledge and skills related to this field.
- **Integration / Stackability Options:** The SmUCS initiative offers three distinct certification pathways:
    - **Individual:** Learners can obtain a certificate for a single micro-credential, issued and awarded by the host university.
    - **Interdisciplinary:** Learners can earn a certificate of micro-credentials in SmUCS by completing six micro-credentials from different sectors. This certificate is issued and awarded by EU-CONEXUS AISBL.
    - **Expertise:** Learners can achieve a certificate of Micro-credentials in a specific sector by completing six micro-credentials within that sector. This certificate is also issued and awarded by EU-CONEXUS AISBL.

  These pathways provide learners with flexibility and choice, allowing them to tailor their learning journey to their specific interests and career goals.
- **Assessment Method(s) and Criteria:** The assessment methods and criteria vary depending on the specific micro-credential. This flexibility allows for a range of assessment approaches tailored to the specific learning outcomes of each micro-credential.
- **Supervision and Identity Verification during Assessment:** Assessments are conducted online and are supervised with identity verification. This ensures the integrity and credibility of the assessment process, maintaining the quality and standards of the micro-credentials.
- **Composition of Final Mark and Grading System:** The composition of the final mark and the grading system vary depending on the specific micro-credential and the awarding university. This reflects the autonomy of each institution within the EU-Conexus alliance to determine its own assessment and grading practices.

- **Other Relevant Information:** The document does not provide additional information in this section. However, the emphasis on online delivery and the use of various digital tools suggest that the SmUCS initiative is designed to be accessible and convenient for learners, aligning with the growing trend towards online and flexible learning in higher education.

2. Comparative analyses on the case studies

2.1. Comparative analysis of the "General Information" component

The analysis of the "General Information" component responses reveals a consistent understanding and application of the grid's framework across the participating institutions. All three universities correctly identified their learning activities as micro-credentials or micro-programmes, indicating a shared understanding of this educational format as defined within the NewFAV project.

The diversity in titles and codes reflects the unique nature and focus of each micro-credential program. EU-Conexus's broader title, "Micro-credentials in Smart Urban Coastal Sustainability", suggests a multidisciplinary approach, encompassing various aspects of sustainability in coastal urban environments. In contrast, Charles University's "Spatial Data Science in Python" and UVT's "Forensic Psychology – Assessment and Intervention" indicate a more specialised focus on specific skills and knowledge areas. The use of codes, while not consistent across all participants, demonstrates a potential for standardisation and identification within institutional contexts, which could be further explored in future iterations of the grid. The fields of study and thematic areas further highlight the versatility of micro-credentials in addressing diverse disciplinary needs and interests. EU-Conexus's programme spans multiple ISCED fields, showcasing the interdisciplinary nature of micro-credentials in addressing complex societal challenges like smart urban coastal sustainability. This aligns with the NewFAV project's emphasis on the role of micro-credentials in tackling real-world problems. Charles University's focus on data science and programming aligns with the growing demand for digital skills in various sectors, while UVT's specialization in forensic psychology caters to a niche professional field, demonstrating the potential of micro-credentials to provide targeted training in specialised areas.

The variation in partner universities and stakeholders reflects the different approaches to collaboration in micro-credential development. EU-Conexus's extensive network of partners, including universities from different European countries, underscores the potential of alliances to pool resources and expertise, creating a richer and more diverse learning experience. This collaborative approach aligns with the NewFAV project's emphasis on fostering partnerships and networks to enhance the quality and impact of micro-credentials. In contrast, Charles University and UVT's independent development may indicate a focus on internal capacity building and expertise, highlighting the flexibility of the grid in accommodating different institutional strategies. The provision of academic coordinator information and student enrolment details demonstrates a commitment to transparency and accessibility. Clear information on enrolment procedures, including the use of online platforms and adherence to data protection regulations, is essential for attracting and supporting learners. This emphasis on user-friendliness and accessibility aligns with the NewFAV project's goal of making micro-credentials more accessible to a wider range of learners.

The diversity in quality assurance mechanisms and certification types highlights the evolving landscape of micro-credential recognition. While EU-Conexus relies on its internal framework and is exploring digital credentials, Charles University utilizes a nationwide system, and UVT issues certificates of professional competence. This suggests that while there is a growing consensus on the importance of quality assurance, the specific mechanisms and formats for certification are still being established. The NewFAV project, through initiatives like the development of the grid and the piloting process, aims to contribute to the ongoing conversation about quality assurance and recognition of micro-credentials. The variation in ECTS recognition and tuition fees reflects the different policies and practices across institutions and countries. This highlights the need for greater harmonisation and transparency in these areas to facilitate the recognition and transferability of micro-credentials across the EHEA. The NewFAV project's efforts to develop a standardised grid and promote dialogue among stakeholders can contribute to this harmonisation process.

The inclusion of links to webpages with further information enhances the accessibility and visibility of the micro-credential programmes. This allows potential learners to easily access detailed information and make informed decisions about their participation, aligning with the NewFAV project's goal of promoting transparency and access to micro-credential opportunities.

2.2. Comparative analysis of the "Activity Design" component

The analysis of the "Activity Design" component responses reveals a diverse range of approaches to micro-credential programme design, reflecting the varying contexts and priorities of the participating institutions. All three participants indicated that their micro-credentials were targeted at postgraduate students, aligning with EQF Level 6. This suggests a common focus on providing advanced or specialised training to learners who have already completed a bachelor's degree. However, EU-Conexus also indicated that their micro-credentials could be suitable for undergraduate students, doctoral candidates/students, and lifelong learners, demonstrating a broader approach to inclusivity and lifelong learning, aligning with the NewFAV project's emphasis on widening participation in higher education.

The qualifications targeted by the micro-credentials varied, with EU-Conexus offering a range of qualifications across multiple fields, Charles University focusing on data science, and UVT targeting psychology. This diversity reflects the wide range of disciplines and professional fields that can be addressed through micro-credentials, showcasing their potential to cater to diverse learner needs and interests. The general organisation of the programs also differed, with EU-Conexus and Charles University adopting an intensive format, while UVT opted for a modular structure. This suggests that the grid can accommodate different pedagogical approaches and timeframes, allowing institutions to tailor their micro-credentials to their specific needs and resources.

The workload and ECTS credit points awarded for the micro-credentials varied significantly, ranging from 1 ECTS (25-30 hours) for EU-Conexus to 4 ECTS (100-120 hours) for Charles University and 15 ECTS (384 hours) for UVT. This variation reflects the different depths and intensities of the learning experiences offered, as well as the varying institutional policies and practices regarding ECTS allocation. The grid's flexibility in accommodating different workload and credit point allocations is evident in these responses. However, the significant difference in ECTS credits between UVT and the

other universities raises questions about the consistency and comparability of micro-credentials across institutions.

The duration of the micro-credential programmes also varied, with EU-Conexus's program lasting 5-7 weeks, Charles University's lasting one week, and UVT's spanning ten months. This flexibility in duration allows institutions to design micro-credentials that fit the schedules and commitments of diverse learners, from those seeking short, intensive courses to those who prefer a more extended learning experience. All three participants opted for online or blended delivery, highlighting the growing trend towards online and flexible learning formats in higher education, which is particularly relevant in the context of the post COVID-19 pandemic period and the increasing demand for remote learning options. The implementation periods for the micro-credentials spanned different academic years, indicating that the grid can be used to design programmes with varying start and end dates, accommodating the diverse scheduling needs of institutions. The number of students enrolled also differed, with EU-Conexus having a minimum of 27 students and no maximum, Charles University having a smaller cohort of 6-25 students, and UVT accommodating 20-50 students. This suggests that the grid can be applied to micro-credentials designed for both small and large groups of learners, catering to different institutional capacities and target audience sizes.

The inclusion of practical work varied among the participants, with EU-Conexus's micro-credentials having varying amounts of practical work depending on the specific credential, Charles University requiring a 62-hour computational essay, and UVT incorporating 60 hours of practical activities. This highlights the importance of aligning practical components with the specific learning outcomes and target audience of each micro-credential, as emphasised in the NewFAV project's focus on skills development and employability. The objectives of the micro-credentials were clearly articulated by all participants, emphasising the acquisition of specific skills and competencies relevant to their respective fields, demonstrating the grid's effectiveness in guiding the articulation of clear and measurable learning goals.

The prerequisites for enrolment varied, with EU-Conexus requiring a B2 level of English, Charles University requiring a basic understanding of Python and statistics, and UVT requiring a BA in Psychology. This reflects the different levels of prior knowledge and experience expected of learners in different fields, highlighting the importance of clearly defining prerequisites to ensure that learners are adequately prepared for the micro-credential programme. Only Charles University mentioned specific selection criteria, indicating that most programmes were open to all applicants who met the prerequisites, aligning with the NewFAV project's emphasis on open and flexible learning pathways. Two of the participants offered their micro-credentials in English (UVT's one being in Romanian), highlighting the importance of English as a lingua franca in European higher education and facilitating the accessibility of these programmes to a wider audience. The tools used for synchronous and asynchronous communication and learning also varied, with participants utilising a mix of platforms such as MS Teams, Moodle, Google Meet, and Google Colab. This demonstrates the flexibility of the grid in accommodating different technological tools and platforms to suit the needs and preferences of both instructors and learners, reflecting the diverse technological landscapes of different institutions.

2.3. Comparative analysis of the "Activity Content" component

The analysis of the "Activity Content" component responses reveals a diverse range of approaches to micro-credential programme content and assessment, reflecting the varying disciplinary focuses and pedagogical preferences of the participating institutions. The scope and competencies outlined by the participants highlight the distinct focus of each micro-credential programme. EU-Conexus's programme aims to bridge academic learning and professional application in the field of Smart Urban Coastal Sustainability, equipping learners with the knowledge and skills to address complex challenges in this domain. Charles University's micro-credential focuses on developing competence in using Python for spatial data science and advancing statistical literacy, catering to the growing demand for data analysis skills. UVT's programme aims to train specialists in forensic psychological evaluation and intervention, addressing a specific need within the field of psychology. This diversity in scope and competencies demonstrates the flexibility of micro-credentials in addressing a wide range of educational and professional needs.

The structure of the micro-credential programmes varied among the participants, showcasing the adaptability of the grid to different pedagogical approaches. EU-Conexus offers a modular programme with multiple micro-credentials that can be stacked into different certifications, providing learners with flexibility and choice in their learning pathways. This approach aligns with the growing trend towards modular and personalised learning in higher education. Charles University's programme is a stand-alone micro-credential course with ten distinct topics, offering a focused and intensive learning experience that may appeal to learners seeking a quick and targeted upskilling opportunity. UVT's programme is structured around 16 disciplines, including specialised practice and a final thesis, indicating a more comprehensive and in-depth approach to micro-credential education, potentially attracting learners who seek a more substantial qualification. The descriptions provided by the participants offer insights into the specific content, workload, ECTS credits, teaching and learning methods, and bibliography for each learning unit or module. EU-Conexus's description emphasises the practical application of knowledge and skills, with a focus on real-world projects and case studies, reflecting a learner-centred and outcome-oriented approach. Charles University's description highlights the use of online teaching and a combination of theoretical concepts, hands-on exercises, and practical assignments, showcasing the potential of technology to enhance the learning experience. UVT's description outlines the various disciplines covered in the programme, including both theoretical and practical components, and emphasises the use of digital tools and student-centred learning principles, indicating a commitment to modern pedagogical approaches.

The information on lecturers and learning outcomes varies in detail among the participants. Charles University provides the name and affiliation of the lecturer responsible for the entire course, while EU-Conexus and UVT do not specify individual lecturers. This could be due to the collaborative nature of their programmes, involving multiple instructors. The learning outcomes are clearly defined for Charles University's programme, outlining the specific skills and knowledge that students are expected to acquire. EU-Conexus's learning outcomes are more broadly defined, focusing on the overall competencies gained in the field of Smart Urban Coastal Sustainability. UVT's learning outcomes are presented as a list of competencies that students will acquire upon completion of the programme. This variation in the level of detail may reflect different institutional practices and preferences in articulating learning outcomes.

The integration and stackability options for the micro-credentials also differ among the participants. EU-Conexus offers three different certification pathways, allowing learners to choose between individual micro-credentials, interdisciplinary certifications, or specialised certifications in a specific sector. This flexibility caters to diverse learner needs and goals, allowing them to tailor their learning journey. Charles University's micro-credential is stand-alone but can be counted towards a regular degree as an elective, offering flexibility for students to integrate it into their existing academic pathways. UVT's programme is designed as a stand-alone micro-programme, focusing on providing specialised training in forensic psychology. This diversity in integration and stackability options demonstrates the potential of micro-credentials to create flexible and personalised learning pathways.

The assessment methods and criteria vary across the programmes, reflecting the different disciplinary approaches and learning outcomes. Charles University utilizes a single final assignment in the form of a computational essay, assessed on a pass/fail basis, emphasising the application of knowledge and skills in a practical context. EU-Conexus's assessment methods vary depending on the specific micro-credential, allowing for a range of assessment approaches tailored to the specific learning outcomes. UVT employs a combination of formative and summative assessments, including individual portfolios, quizzes, multiple-choice tests, and a final project, providing a more comprehensive evaluation of learner progress and achievement. The level of supervision and identity verification during assessments also varies, reflecting different institutional policies and practices. EU-Conexus implements supervised online assessments with identity verification, ensuring the integrity of the assessment process in a remote learning environment. Charles University requires on-site demonstration of practical skills with identity verification, emphasising the importance of hands-on assessment for certain competencies. UVT conducts supervised on-site assessments without identity verification, potentially relying on other measures to ensure academic integrity.

The composition of the final mark and the grading system also differ among the participants. Charles University's programme is graded on a pass/fail basis, with the final assignment being the sole determinant of the outcome. This approach may be suitable for micro-credentials that focus on the achievement of specific competencies rather than a nuanced evaluation of performance. EU-Conexus's grading system varies depending on the specific micro-credential, allowing for flexibility in assessment practices. UVT uses a numerical grading system with a minimum passing grade of 5 out of 10 for each subject, providing a more detailed evaluation of learner performance.

The participants provided additional information relevant to their micro-credential programmes, such as the availability of technical support, the use of online discussion forums, and the specific resources required for participation. This information is crucial for potential learners to understand the logistical and technical requirements of the programmes and to make informed decisions about their enrolment. This emphasis on transparency and accessibility aligns with the NewFAV project's goal of making micro-credentials more accessible and user-friendly for learners.

3. Collective Feedback Analysis

3.1. Feedback on "General Information" section

The feedback on the “General Information” section of the micro-credential programme design grid was overwhelmingly positive, with all five participating institutions (Charles University, EU-Connexus, UVT, National and Kapodistrian University of Athens – NKUA, and Paris Lodron University of Salzburg – PLUS) finding the instructions and definitions clear and easy to understand. This indicates that the grid’s language and terminology are accessible and appropriate for its target audience of academics and university staff involved in micro-credential development.

However, two institutions, Charles University and EU-Connexus, indicated that the fields in this section did not cover all the necessary information for their specific contexts. Charles University suggested the inclusion of fields for the type and conditions of student assessment, as well as an expansion of the field for lecturer details. EU-Connexus, on the other hand, highlighted the need for additional fields to accommodate micro-credentials that are part of a larger programme or offer stackable pathways. These suggestions indicate that while the grid is generally comprehensive, it could be further refined to cater to the diverse needs and structures of micro-credential programmes across different institutions.

Despite these suggestions for improvement, all participants rated the overall usefulness of the “General Information” section highly, with scores ranging from “Useful” to “Extremely useful”. The section was also praised for its clarity, completeness, and ease of use. This positive feedback suggests that the grid provides a solid foundation for the design and implementation of micro-credential programmes, effectively capturing the essential general information required for these initiatives. The feedback on the “General Information” section highlights its strengths in terms of clarity, usability, and overall usefulness. However, the suggestions for improvement, particularly regarding the inclusion of additional fields to accommodate diverse programme structures and assessment details, offer valuable insights for refining the grid and enhancing its applicability across a wider range of micro-credential initiatives.

3.2. Feedback on "Activity Design" section

The feedback on the “Activity Design” section of the micro-credential programme design grid was generally positive, with all five participating institutions rating its overall usefulness as “Useful”. However, there were varying degrees of satisfaction with the clarity of instructions and definitions, ranging from “Neutral/Moderately Clear” (Charles University) to “Extremely Clear” (NKUA). This suggests that while most users found the section easy to understand, there might be room for improvement in clarifying certain instructions or terminology for a more universally clear experience.

Regarding comprehensiveness, most participants felt the section covered the necessary information. However, EU-Connexus noted a lack of accommodation for programmes with multiple micro-credentials across different sectors. This feedback highlights a potential limitation of the grid in its current form, as it may not fully cater to the needs of institutions offering more complex or diverse micro-credential programmes.

Specific suggestions for improvement were also provided:

- **Charles University:** Simplifying the “Duration of the activity” field and addressing the use of American date format (MM/DD/YYYY) and the starting year in the “Implementation period” field. They also noted the need for a field to explain extended deadlines for final assignments. These suggestions point to potential usability issues and a need for clearer guidance on how to accurately represent the temporal aspects of micro-credential programmes.
- **EU-Connexus:** Reiterated the need for accommodating multiple micro-credentials across different sectors, emphasising the importance of flexibility and adaptability in the grid’s design to cater to a wider range of institutional offerings.

Overall, the feedback indicates that the “Activity Design” section is valuable but could be enhanced by improving the clarity of some instructions, increasing flexibility for diverse programme structures, and addressing minor issues like date formats and deadline explanations. These refinements would make the grid more user-friendly and applicable to a broader range of micro-credential programmes, ultimately contributing to its wider adoption and effectiveness in supporting the development of high-quality micro-credentials across the EHEA.

3.3. Feedback on "Activity Content" section

The “"Activity Content” section of the grid was well-received by the participants, with the majority rating it as either “Useful” or “Extremely Useful”. This positive feedback indicates that the section effectively guides users in defining the core content and assessment aspects of their micro-credential programs.

While most participants found the instructions and definitions in this section to be clear, UVT rated them as “Neutral/Moderately Clear”, suggesting potential room for improvement in clarifying certain terms or providing more detailed guidance. All participants agreed that the fields in this section covered the necessary information for designing and implementing micro-credential programmes, indicating that the grid is comprehensive in capturing the essential elements of activity content.

Despite the overall positive feedback, participants offered valuable suggestions for further enhancing the “Activity Content” section:

- **Charles University:** Highlighted a potential overlap between the “Scope” in this section and the “Objective"” in the previous “Activity Design” section. They suggested clarifying the distinction between these two concepts to avoid confusion and ensure a more streamlined user experience. Additionally, they found the list of possible activity forms to be exhaustive and potentially confusing, recommending a simplification or clarification of these terms.
- **EU-Connexus:** Noted that the grid did not allow for the inclusion of information regarding the different pathways that could be taken to achieve a micro-credential. They suggested that this could be a valuable addition to the grid.
- **UVT:** Proposed the inclusion of an option to upload documents containing the required information, which could streamline the process for users and reduce the need for manual input. This suggestion aligns with the broader goal of making the grid as user-friendly and efficient as possible.

Overall, the feedback on the "Activity Content" section was positive, indicating that the grid effectively captures the essential information needed to define the content and assessment of micro-credential programs. Minor refinements in clarity and streamlining, such as clarifying the distinction between "Scope" and "Objective" and simplifying the list of activity forms, could further enhance its usability and ensure a seamless user experience. The suggestion to allow document uploads could also be a valuable addition, particularly for institutions with existing documentation that could be easily integrated into the grid. Additionally, the suggestion to include information on pathways could be beneficial for institutions offering micro-credentials with multiple completion options.

3.4. Feedback on the 12-step checklist

The 12-step checklist included in the grid was highly praised by all participants, with most rating it as "Extremely Clear" and "Very Comprehensive". This positive feedback indicates that the checklist is a valuable tool that effectively guides users through the essential steps of designing and implementing micro-credential programs.

The high clarity rating suggests that the steps outlined in the checklist are easy to understand and follow, making it a user-friendly resource for both experienced and novice micro-credential developers. The high comprehensiveness rating indicates that the checklist covers all the essential aspects of the design and implementation process, providing a holistic framework for developing successful micro-credential programs. Most participants found the checklist to be feasible to follow within their university context, with NKUA rating it as "Very Feasible". However, EU-Connexus rated it as "Somewhat Feasible", suggesting that some steps might be more challenging to implement in certain institutional contexts. This could be due to differences in resources, infrastructure, or existing processes.

Despite the overall positive feedback, participants offered valuable suggestions for further improving the checklist:

- **Charles University:** Suggested combining or eliminating steps in the drafting phase (4-8) to streamline the process. They also recommended adding a step on evaluating program impact and collecting learner feedback, highlighting the importance of continuous improvement and data-driven decision-making in micro-credential development.
- **EU-Connexus:** Proposed including possible pathways for micro-credential programmes, recognising that different institutions might have different approaches to integrating micro-credentials into their existing offerings.
- **UVT:** Suggested adjusting the order of items or sections to better align with their institution's specific workflow and priorities.

Overall, the feedback on the 12-step checklist was overwhelmingly positive, indicating that it is a valuable and effective tool for guiding the design and implementation of micro-credential programmes. The suggestions for improvement, while relatively minor, offer valuable insights for refining the checklist and tailoring it to the specific needs and contexts of different institutions. By incorporating these suggestions, the checklist can be further enhanced to become an even more indispensable resource for micro-credential developers across the EHEA.

3.5. Summative Feedback

The summative feedback on the micro-credential programme design grid was overwhelmingly positive, with all five participating institutions rating the grid as “Easy” or “Very Easy” to understand and work with. This indicates that the grid is user-friendly and accessible to its target audience, even for those who may not have extensive experience with micro-credential development.

The institutions envisioned using the grid for a variety of purposes, including:

- **Streamlining micro-credential development processes:** The grid’s structured format and comprehensive guidance can help institutions save time and resources by providing a clear roadmap for the design and implementation of micro-credentials.
- **Ensuring comprehensiveness of micro-credential design:** The grid prompts users to consider all essential aspects of micro-credential design, from learning outcomes and assessment to quality assurance and certification, ensuring that no critical elements are overlooked.
- **Facilitating collaboration among different departments:** The grid can serve as a common reference point for different stakeholders involved in micro-credential development, fostering communication and collaboration across departments and faculties.
- **Quality assurance:** The grid’s emphasis on alignment with the Bologna Process principles and quality assurance standards can help institutions ensure that their micro-credentials meet high standards of quality and are recognised across the EHEA.
- **Strategic planning:** The grid can be used as a tool for strategic planning, helping institutions identify areas where micro-credentials can address specific needs or fill gaps in their educational offerings.

The institutions also identified several potential positive impacts of the grid on micro-credential development at their universities:

- **Improved quality and consistency of micro-credentials:** By providing a standardised framework and guiding principles, the grid can help institutions ensure that their micro-credentials are of high quality and consistent with European standards.
- **Increased efficiency in developing new micro-credentials:** The grid’s structured approach can streamline the development process, reducing the time and resources required to create new micro-credential programmes.
- **Enhanced communication and collaboration within the university:** The grid can serve as a common language and framework for discussing micro-credentials, fostering communication and collaboration among different departments and stakeholders.
- **Responsiveness to market needs:** The grid prompts institutions to consider the needs of the labour market and learners, ensuring that micro-credentials are relevant and address current skills gaps.
- **Flexibility:** The grid’s adaptable structure allows institutions to tailor micro-credentials to their specific contexts and needs, ensuring that they are flexible and responsive to changing circumstances.

- **Recognition:** By aligning micro-credentials with the Bologna Process principles, the grid can enhance their recognition and transferability across the EHEA.
- **Student-centredness:** The grid emphasises the importance of learner-centred design, ensuring that micro-credentials are engaging and meet the needs of diverse learners.
- **Innovation:** The grid encourages institutions to think creatively and innovatively about micro-credential design, fostering a culture of experimentation and continuous improvement.

Overall, the summative feedback on the micro-credential programme design grid was overwhelmingly positive. The participants found it to be a valuable tool with the potential to significantly enhance the development and implementation of micro-credentials within their institutions. The grid's clarity, comprehensiveness, ease of use, and alignment with European standards were highlighted as its most valuable aspects. The feedback also suggests that the grid could be further improved by incorporating suggestions for specific refinements and additions, such as accommodating multiple micro-credentials across different sectors and including a step on evaluating programme impact. However, the overall consensus is that the grid is a valuable resource that can support the growth and development of micro-credentials in the EHEA.

4. European University Alliance Perspective

The feedback from the participating universities, all of them also being members of European University Alliances (EU-Conexus Alliance, CIVIS Alliance, UNITA Alliance, 4EU+ Alliance) reveals some unique considerations and challenges in micro-credential development within these collaborative networks.

One key consideration is the need to accommodate the diversity of institutional contexts and practices within the alliance. EU-Conexus, for example, highlighted the challenge of designing a grid that could be applied to micro-credentials offered by multiple universities with varying internal regulations and quality assurance procedures. This suggests that the grid may need to be flexible enough to allow for some degree of customisation or adaptation to suit the specific needs of each partner institution. Another consideration is the potential for micro-credentials to support the broader goals of European University Alliances, such as promoting mobility, fostering collaboration, and enhancing the recognition of qualifications across borders. The feedback from the participating universities suggests that the grid could be further developed to explicitly address these goals. For example, the grid could include prompts or guidance on how to design micro-credentials that can be easily transferred or recognised across different institutions within the alliance.

The feedback also highlights the importance of collaboration and communication among alliance partners in the development and implementation of micro-credentials. EU-Connexus emphasised the need for a platform or mechanism to facilitate communication and coordination among the different universities involved in the SmUCS initiative. This suggests that the grid could be supplemented with additional tools or resources to support collaboration and knowledge sharing among alliance partners.

Overall, the feedback from the European University Alliance members indicates that the grid is a valuable tool for guiding micro-credential development, but it could be further refined to better address the unique considerations and challenges of these collaborative networks. By incorporating

the feedback and suggestions from these institutions, the grid can be enhanced to become an even more effective tool for supporting the development and integration of micro-credentials within European University Alliances, ultimately contributing to the broader goals of the EHEA.

DISCUSSION

1. Grid Evaluation

The piloting phase of the micro-credential programme design grid yielded valuable insights into its effectiveness, usability, and potential impact on micro-credential development within higher education institutions.

1.1. Effectiveness and Achievement of Objectives

Overall, the grid demonstrated promising effectiveness in facilitating both the design and evaluation of micro-credential programmes. Piloting participants from Charles University, the Catholic University of Valencia and EU-Conexus Alliance, West University of Timișoara were able to utilise the grid to systematically analyse existing micro-credentials or create new ones, while the University of Salzburg and the National and Kapodistrian University of Athens were able to provide feedback on the grid even if not having implemented micro-credentials yet, but currently designed such programmes. This suggests that the grid's structure aligns with the core elements necessary for robust micro-credential development.

- **West University of Timișoara:** Successfully used the grid to map and evaluate their existing micro-programme in Forensic Psychology, highlighting the grid's utility in assessing alignment with quality standards and identifying areas for enhancement. For example, the grid prompted them to specify the involvement of stakeholders like the Penitentiary of Timișoara and the Penitentiary of Arad, which might not have been explicitly documented otherwise.
- **Charles University of Prague:** Applied the grid to design a new micro-credential in Spatial Data Science, demonstrating its value in structuring the development process from conception to implementation. The grid's emphasis on practical work led to the inclusion of a 62-hour computational essay as a core assessment component.
- **Catholic University of Valencia & EU-Conexus Alliance:** Leveraged the grid within the context of the EU-Conexus Alliance to design a suite of micro-credentials in Smart Urban Coastal Sustainability, showcasing its adaptability to collaborative micro-credential initiatives across diverse European institutions. The grid's flexibility was evident in its ability to accommodate the alliance's three distinct certification pathways (Individual, Interdisciplinary, and Expertise).

The grid also appears to be well-aligned with current trends in curricular design and innovation at the European level. Its emphasis on flexibility, modularity, stackability, and alignment with industry needs (using ESCO) reflects the direction that many European universities are taking. The inclusion of ECTS as a measure of workload aligns with the European Credit Transfer and Accumulation System, facilitating the recognition and transferability of micro-credentials across borders.

1.2. Usability, Clarity, and Comprehensiveness

Survey feedback from piloting participants indicated a generally positive reception of the grid's usability and clarity. Quantitative ratings and qualitative comments suggest that the grid's structure is intuitive and easy to follow. The sections on "General Information" and "Activity Content" were particularly well-received, with participants finding them clear, comprehensive, and easy to use. All participating institutions rated the "General Information" section as "Extremely Useful" or "Useful", and found the instructions and definitions easy to understand.

However, some participants suggested that additional guidance or examples could further enhance the grid's comprehensiveness, especially for institutions new to micro-credential development. The "Activity Design" section, while generally considered useful, received some feedback regarding the clarity of certain instructions and the need for more flexibility to accommodate diverse programme structures. For instance, Charles University found the "Duration of the activity" section confusing and suggested simplification. Specific areas for improvement identified by participants include:

- **Clarity of Instructions:** Some instructions, particularly in the "Activity Design" section, could be clarified or supplemented with examples to ensure consistent understanding and application across different users. For example, providing more detailed guidance on how to calculate and present workload distribution could be beneficial.
- **Flexibility for Diverse Programmes:** The grid could be enhanced to better accommodate micro-credentials that are part of larger programmes, offer multiple pathways, or span different disciplines. This could involve adding fields or sections to capture the unique characteristics of such programmes.
- **Additional Guidance:** More detailed guidance or examples could be provided for certain fields, such as those related to assessment methods, quality assurance, and recognition of prior learning. This could include best practice examples or links to relevant resources.

1.3. Alignment with European Universities Alliances

The involvement of universities participating in European Universities Alliances was a key aspect of the piloting. Feedback from these institutions, particularly the Catholic University of Valencia and the EU-Conexus Alliance, indicates that the grid can be effectively utilised within the collaborative framework of alliances. The grid's emphasis on quality assurance, transparency, and recognition aligns with the goals of the alliances to create a European Education Area where micro-credentials are valued and transferable. The EU-Conexus Alliance, for instance, found the grid valuable for designing a suite of micro-credentials that could be offered across multiple universities within the alliance.

However, the piloting also revealed some challenges in applying the grid within alliances. The diversity of institutional contexts and practices within alliances requires a degree of flexibility and adaptability in the grid's application. For example, the EU-Conexus Alliance highlighted the need for a platform or mechanism to facilitate communication and coordination among partner universities during the design and implementation of micro-credentials. Additionally, the grid could be further developed to explicitly address the unique needs and goals of alliances, such as promoting mobility and fostering collaboration among partner institutions.

The piloting phase has validated the micro-credential programme design grid as a valuable tool for micro-credential programme design and evaluation. The positive feedback from participants, particularly regarding its clarity, comprehensiveness, and alignment with European standards, underscores its potential to support the development of high-quality, relevant, and recognised micro-credentials. However, the piloting also revealed areas for improvement, such as the need for clearer instructions, greater flexibility for diverse programme structures, and additional guidance for specific fields. By incorporating this feedback and addressing these areas for improvement, the grid can be further refined to become an even more effective and user-friendly tool for micro-credential development across the EHEA.

2. Alignment with Trends

The piloting findings strongly suggest that the micro-credential programme design grid aligns well with current trends in micro-credentials, curricular design, and the European Universities Initiative. The grid's emphasis on flexibility, modularity, stackability, and alignment with industry needs resonates with the evolving landscape of higher education.

Micro-Credential Trends

The increasing demand for flexible, skills-based learning opportunities is a key trend in higher education, and micro-credentials are emerging as a popular solution. The grid's structure, which guides institutions through the design of micro-credentials that are clearly defined, assessable, and aligned with industry standards, directly addresses this trend. The emphasis on using the European Skills, Competences, Qualifications, and Occupations (ESCO) framework, as seen in Charles University's use of ESCO 2511.4 for their data science micro-credential, ensures that micro-credentials are relevant to the current job market and equip learners with in-demand skills.

Curricular Design Trends

In curricular design, there is a growing emphasis on learner-centricity, personalisation, and the integration of work-based learning. The grid's modular structure, as exemplified by the EU-Conexus and UVT case studies, supports these trends by enabling the creation of micro-credentials that can be easily combined and customised to meet individual learners' needs and interests. The focus on learning outcomes and assessment criteria ensures that micro-credentials are designed with clear goals and measurable outcomes in mind. This is evident in the detailed learning outcomes provided by Charles University and the diverse assessment methods employed by UVT.

European Universities Initiative

The piloting findings also highlight the grid's potential to support the goals of alliances. The emphasis on quality assurance, transparency, and recognition aligns with the alliances' vision of creating a European Education Area where micro-credentials are valued and transferable. The grid's adaptability to different institutional contexts and its focus on collaboration, as seen in the EU-Conexus case study with its multiple partner universities, make it a valuable tool for alliances seeking to develop and implement joint European micro-credential programmes.

Synergies and Areas of Tension

The piloting process findings and feedback on the grid align with the survey responses regarding the checklist's feasibility and the perceived impact of the grid on micro-credential development. Most survey respondents found the checklist feasible to implement, and they believed that the grid would have a positive impact on the quality, relevance, and recognition of micro-credentials. This suggests that the grid has the potential to support broader trends in micro-credential adoption and innovation.

However, some areas of tension were also identified. The diversity of institutional contexts and practices within alliances, as highlighted by the varying ECTS allocation and assessment methods in the case studies, presents a challenge in ensuring consistent application of the grid. There is a need for more guidance and support for institutions in adapting the grid to their specific needs and contexts. For example, the grid could include more specific examples and case studies illustrating how different institutions have addressed these challenges.

Additionally, while the grid provides a framework for designing micro-credentials, it does not explicitly address the broader ecosystem necessary for their successful implementation, such as the development of quality assurance mechanisms, recognition frameworks, and pathways for integrating micro-credentials into existing qualifications. Future iterations of the grid could consider incorporating these aspects to provide a more holistic approach to micro-credential development. The alignment of the micro-credential programme design grid with current trends in micro-credentials, curricular design, and European Universities Initiative is a strong indicator of its potential to support the wider adoption and integration of micro-credentials in European higher education. The grid's emphasis on flexibility, learner-centricity, quality assurance, and collaboration resonate with the evolving needs and priorities of the EHEA.

However, addressing the identified areas of tension, such as providing more guidance for diverse institutional contexts and incorporating aspects of the broader micro-credential ecosystem, will be crucial in maximising the grid's impact. By continuously refining and adapting the grid based on user feedback and emerging trends, it can become an even more effective tool for supporting the development and implementation of high-quality, relevant, and recognized micro-credentials across Europe.

3. Implications for Practice

The piloting study's findings have several practical implications for higher education institutions and alliances seeking to develop and integrate micro-credentials into their curricula:

1. **Standardized Framework for Micro-credential Development**

   The grid offers a standardised framework that can be adapted to diverse institutional contexts. This can streamline the development process, ensuring that all essential aspects of micro-credential design are considered, from learning outcomes and assessment to quality assurance and certification. The grid's modular structure allows institutions to tailor micro-credentials to their specific needs and resources, whether they are developing stand-alone courses or integrating them into larger programmes.

2. **Enhanced Quality and Recognition**

   By aligning micro-credentials with the Bologna Process principles and quality assurance standards, the grid can enhance the quality and recognition of these credentials across the EHEA. This can increase the value and credibility of micro-credentials for learners and employers, facilitating their integration into the labour market.

3. **Fostering Collaboration and Innovation**

   The grid can serve as a common language and framework for discussing micro-credentials, fostering collaboration among different departments and stakeholders within institutions and across alliances. This can lead to the development of more innovative and interdisciplinary micro-credential programmes that address complex societal and economic challenges. The EU-Conexus case study exemplifies this, where the grid facilitated showcasing the collaboration among multiple universities to create a suite of micro-credentials in a niche area.

4. **Promoting Flexibility and Accessibility**

   The grid's emphasis on online or blended delivery, flexible duration, and diverse assessment methods can make micro-credentials more accessible to a wider range of learners, including working professionals and non-traditional students. This aligns with the growing demand for lifelong learning opportunities and the need for higher education institutions to cater to diverse learner needs.

5. **Addressing Specific Challenges**

   The piloting study identified specific challenges, such as the need for clearer guidance on workload calculation and the integration of micro-credentials into larger programmes. Addressing these challenges in future iterations of the grid can further enhance its usability and effectiveness. For instance, the grid could include more detailed instructions on how to calculate workload based on ECTS credits and provide examples of how micro-credentials can be stacked or integrated into degree programs.

6. **Informing Policy and Practice**

   The findings of the piloting study can inform policy discussions and decision-making at both institutional and national levels. By highlighting the benefits and challenges of micro-credential development, the study can contribute to the development of supportive policies and regulations that foster the growth and recognition of micro-credentials across Europe.

Overall, the micro-credential programme design grid has the potential to significantly impact the landscape of higher education by providing a practical and adaptable tool for developing high-quality, relevant, and recognised micro-credentials. By addressing the identified challenges and incorporating the lessons learned from the piloting study, the grid can be further refined to become an even more valuable resource for higher education institutions and alliances across Europe.

RECOMMENDATIONS

1. Revisions or enhancements to the grid

Based on the feedback received during the piloting study, several revisions and enhancements are recommended to improve the usability, clarity, and comprehensiveness of the micro-credential programme design grid:

"General Information" Section

- **Expand Fields:** Increase the character limit for text fields, such as the description of the lecturer's position and details, to allow for more comprehensive information.
- **Add Fields:** Include a field for the type and conditions of student assessment, as this was identified as missing information by some participants. Consider adding a field to specify whether the micro-credential is part of a larger program or offers stackable pathways.

"Activity Design" Section

- **Clarify Instructions:** Simplify the language and provide clearer instructions for the "Duration of the activity" field. Consider using a dropdown menu to select the unit of time (e.g., weeks, months) and separate fields for the total duration and contact hours per unit.
- **Standardise Date Format:** Use the international date format (DD/MM/YYYY) consistently throughout the grid to avoid confusion.
- **Add Deadline Explanation Field:** Include a field to explain extended deadlines for final assignments or other assessment components, as this was identified as a missing piece of information.
- **Accommodate Multiple Micro-credentials:** Add fields or sections to accommodate programmes with multiple micro-credentials across different sectors, allowing for a more comprehensive description of complex programmes.

"Activity Content" Section

- **Clarify Terminology:** Clearly distinguish between the "Scope" and "Objectives" sections to avoid overlap and confusion. Consider revising the terminology or providing additional guidance to clarify the difference between these concepts.
- **Simplify Activity Forms:** Revise the list of possible activity forms (learning unit / module / activity / component) to make it more concise and less exhaustive. Consider using a dropdown menu with the most common forms and an "other" option for less common ones.
- **Number Questionnaire Items:** Number the questions in the feedback questionnaire to facilitate easier reference and discussion during the feedback process.
- **Allow Document Uploads:** Include an option to upload documents containing the required information, such as course syllabi or assessment rubrics, to streamline the process for users.

- **Include Pathway Information:** Add a field or section to describe the different pathways that learners can take to achieve the micro-credential, if applicable. This could include information on prerequisite courses, elective modules, or different assessment options.

12-Step Checklist

- **Streamline Drafting Phase:** Consider consolidating or eliminating some steps in the drafting phase (4-8) to streamline the process.
- **Incorporate Evaluation Step:** Add a step on evaluating programme impact and collecting learner feedback to emphasise continuous improvement.
- **Include Pathway Options:** Incorporate possible pathways for micro-credential programmes to acknowledge the diverse approaches institutions may take.
- **Allow for Flexibility:** The checklist should be adaptable to different institutional contexts and workflows, allowing users to adjust the order of steps or sections as needed.

By incorporating these revisions and enhancements, the micro-credential programme design grid can be further refined to better support the diverse needs of higher education institutions and alliances in developing high-quality, relevant, and recognised micro-credentials.

2. Implementation strategies for universities and alliances

The micro-credential programme design grid and the insights gained from the piloting process can be instrumental in supporting higher education institutions and European University Alliances in their efforts to design and implement innovative, attractive, impactful, and relevant micro-credentials.

2.1. For Higher Education Institutions

1. **Streamlining Development Processes**

   The grid can serve as a roadmap for the systematic design and development of micro-credentials, ensuring that all essential components are considered and that the process is efficient and well-structured. This can be particularly beneficial for institutions that are new to micro-credential development or those seeking to scale their offerings.

2. **Enhancing Quality and Recognition**

   By aligning micro-credentials with the Bologna Process principles and quality assurance standards, institutions can enhance the quality and recognition of their credentials. The grid can guide institutions in developing robust assessment methods, ensuring transparency in learning outcomes, and establishing clear certification procedures. This can increase the value and credibility of micro-credentials for learners and employers.

3. **Fostering Collaboration and Innovation**

   The grid can be used to facilitate collaboration among different departments within the institution. By providing a common framework and language for discussing micro-credentials,

the grid can encourage interdisciplinary collaboration and the development of innovative programs that address complex challenges. The "Activity Content" section, for example, can be used to identify potential areas for collaboration and to ensure that the micro-credential aligns with the broader goals and mission of the institution.

4. **Promoting Flexibility and Accessibility**

   Institutions can leverage the grid to design micro-credentials that are flexible and accessible to diverse learners. The grid's emphasis on online or blended delivery, modular structure, and varied assessment methods can help institutions cater to the needs of working professionals, non-traditional students, and learners with different learning styles. This can broaden participation in micro-credential programmes and contribute to the institution's commitment to lifelong learning.

2.2. For European University Alliances

1. **Harmonizing Micro-credential Development**

   The grid can serve as a common framework for developing micro-credentials across different institutions within an alliance. This can facilitate the harmonisation of quality standards, learning outcomes, and assessment methods, ensuring that micro-credentials are recognised and transferable across the alliance. The "General Information" section, for instance, can be used to establish common definitions and terminology for micro-credentials across the alliance.

2. **Promoting Collaboration and Mobility**

   Alliances can utilise the grid to foster collaboration among partner institutions in the design and delivery of joint micro-credential programmes. This can enhance the diversity and richness of micro-credential offerings, providing learners with access to a wider range of expertise and perspectives. The grid can also be used to design micro-credentials that are easily transferable and recognised across different institutions within the alliance, promoting student mobility and facilitating the accumulation of credits towards larger qualifications.

3. **Addressing Alliance-Specific Needs**

   The grid can be adapted to address the specific needs and goals of alliances. For example, the grid could be expanded to include sections on how to align micro-credentials with the alliance's strategic objectives, how to promote mobility through micro-credentials, and how to leverage the alliance's network to enhance the visibility and impact of micro-credential programmes.

By leveraging the micro-credential programme design grid and the insights gained from the piloting process, higher education institutions and European Universities Alliances can effectively design and implement micro-credentials that are innovative, attractive, impactful, and relevant to diverse learners and varied learning environments. This can contribute to the broader goals of the EHEA by promoting lifelong learning, enhancing skills development, and fostering collaboration and innovation across borders.

3. Future research or evaluation efforts

To further enhance the micro-credential programme design grid and support the broader development of micro-credentials in the EHEA, the following future research and evaluation efforts could be considered:

- **Longitudinal Studies:** Conduct longitudinal studies to track the impact of micro-credentials designed using the grid on learner outcomes, employment prospects, and career advancement. This would provide valuable evidence of the long-term effectiveness of the grid and inform further refinements.
- **Comparative Studies:** Compare the effectiveness of micro-credentials developed using the grid with those developed using other approaches or frameworks. This would help to identify the unique strengths and weaknesses of the grid and inform best practices in micro-credential design.
- **Scaling and Sustainability:** Investigate the scalability and sustainability of micro-credential programs designed using the grid. This would involve examining the resources and infrastructure required for successful implementation at scale and identifying potential barriers or challenges.
- **Quality Assurance and Recognition:** Explore the development of standardised quality assurance mechanisms and recognition frameworks for micro-credentials across the EHEA. This could involve collaborating with relevant stakeholders, such as accreditation agencies, employers, and professional bodies, to establish common standards and criteria for micro-credential recognition.
- **Learner Perspectives:** Gather in-depth feedback from learners who have participated in micro-credential programmes designed using the grid. This could involve surveys, focus groups, or interviews to understand their experiences, perceptions of value, and suggestions for improvement.
- **Labour Market Analysis:** Conduct regular labour market analyses to identify emerging skills gaps and needs. This information can be used to inform the design of new micro-credentials that are relevant to the evolving demands of the workforce.
- **Technological Integration:** Explore the integration of emerging technologies, such as blockchain and artificial intelligence, into the design and delivery of micro-credentials. This could enhance the security, transparency, and personalisation of micro-credential programmes.
- **Policy Development:** Engage with policymakers at national and European levels to advocate for supportive policies and regulations that foster the growth and recognition of micro-credentials. This could involve participating in consultations, providing evidence-based recommendations, and collaborating with other stakeholders to develop a cohesive policy framework for micro-credentials.

By pursuing these future research and evaluation efforts, the micro-credential programme design grid can be continuously refined and improved, ensuring that it remains a valuable and relevant tool for supporting the development and integration of micro-credentials in the EHEA. These efforts can also contribute to the broader goals of the Bologna Process by promoting lifelong learning, enhancing skills development, and fostering innovation and collaboration across borders.

CONCLUSION

The piloting study of the micro-credential programme design grid has yielded promising results, demonstrating its effectiveness as a tool for guiding the development and implementation of high-quality, relevant, and recognised micro-credentials in European higher education. The grid's structured format, comprehensive prompts, and alignment with the Bologna Process principles have proven valuable for both designing new micro-credentials and evaluating existing ones, as showcased by Charles University, West University of Timișoara, the University of Salzburg, the National and Kapodistrian University of Athens, and the EU-Conexus Alliance.

The grid's flexibility allows for the creation of micro-credentials that cater to diverse learner needs and interests, ranging from short, intensive courses to more comprehensive programmes with multiple pathways and certifications. This adaptability is crucial in a rapidly evolving educational landscape where learners seek diverse and personalized learning opportunities. The case studies from Charles University, West University of Timișoara, and the EU-Conexus Alliance exemplify this adaptability, showcasing the grid's effectiveness in guiding the showcasing of micro-credentials across different disciplines, institutional contexts, and pedagogical approaches.

Feedback from piloting participants and survey respondents further validates the grid's utility and potential impact. The grid was praised for its clarity, comprehensiveness, ease of use, and alignment with European standards. It was seen as a valuable tool for streamlining the development process, enhancing the quality and recognition of micro-credentials, fostering collaboration and innovation, and promoting flexibility and accessibility. These positive outcomes align with the piloting study's objectives, which aimed to assess the grid's applicability, usability, alignment with Bologna values, impact on curricular innovation, and contribution to social inclusion. The piloting study also identified areas for improvement, such as the need for clearer guidance on certain aspects of the grid, greater flexibility to accommodate diverse programme structures, and additional features like document uploads and pathway descriptions. These recommendations will be incorporated into future iterations of the grid to enhance its usability and effectiveness.

In conclusion, the micro-credential programme design grid has proven to be a valuable tool for curricular innovation and the development of high-quality micro-credentials in European higher education. By providing a structured framework, promoting collaboration, and ensuring alignment with European standards, the grid can empower institutions and alliances to create micro-credentials that are relevant, impactful, and recognized across the EHEA. The continued refinement and dissemination of the grid, along with further research and evaluation efforts, will be crucial in realising the full potential of micro-credentials as a driver of innovation, inclusion, and lifelong learning in European higher education.

The successful piloting of the grid also contributes to the broader goals of the EHEA. By facilitating the development of high-quality, standardised micro-credentials, the grid can enhance the transparency and recognition of qualifications across borders, promoting student mobility and lifelong learning. Furthermore, the grid's emphasis on collaboration and partnerships can strengthen the cooperation between higher education institutions and other stakeholders, such as employers and professional bodies, fostering a more integrated and responsive educational ecosystem.

The insights gained from this piloting study will inform future research and evaluation efforts, ensuring that the grid remains a relevant and effective tool in the ever-evolving landscape of higher education. By continuously adapting and improving the grid based on user feedback and emerging trends, we can ensure that it continues to support the development of micro-credentials that meet the needs of learners, employers, and society.

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APPENDIX

Programme design grid piloting and assessment survey

1. Survey introduction

NewFAV - A grid for micro-credentials programme design

Hello: You are invited to support the piloting process of **a programme design grid** proposal for designing and implementing **micro-credentials** in higher education, as part of the **NewFAV project** coordinated by **UEFISCDI**, in cooperation with **UNICA Network,** and funded by the **European Union.** This process is very important for our work to support academics and other colleagues in European higher education institutions to develop micro- credentials to all types of learners.

The purpose of this online form is to assess the piloting grid proposal on an existing or new micro-credential activity in your university and to check whether the grid can respond to the needs of designing and implementing such an educational activity and what improvements can be made in this regard. So, this online form will both serve as a way in which the grid can be filled with an existing or new micro-credential, as well as to test and refine the grid. Moreover, you are invited to consider this tool as a tool that can support your university to establish a common approach in the following period, as the aim of the project is to publish the piloting grid and the piloting reports by the summer of 2024.

We express our sincere and kind appreciation for your support in this process and we kindly ask you to contact us, without any hesitation, for any need of support and/or questions. The email contact for this process is: **alexandru-mihai.cartis@unibuc.ro.**

Information about the grid

The grid for designing a micro-credential is part of the project "NEW BUILDING BLOCKS OF THE BOLOGNA PROCESS: FUNDAMENTAL VALUES (NEWFAV)", funded by the European Education and Culture Executive Agency (EACEA) through the ERASMUS IBAs Budget-based + LS Type I and II under grant agreement Project 101060970 — NewFAV, and aims to support the design and implementation of programmes that lead to the acquirement of micro-credentials by the learners, both traditional and non-traditional to the current higher education teaching and learning context (including also, but not limited to, training teaching staff at all levels, for example, that in the sense of continuous professional development).

Methodological approach

Higher education institutions are asked to support the piloting process of the grid by testing the grid against existing or new programmes that lead to the acquirement of micro-credentials, by filling the grid with the required information and providing feedback on each of the section of the grid, considering both the challenges of using such a grid and the opportunity that it can provide. For such, along the grid itself, some feedback questions will be addressed for each section (3 sets of feedback questions + 1 general set at the end) to the participants to support the updating and refinement process for the grid.

Grid document

You can download the NewFAV report on the grid proposal from the following link: https://uefiscdi.gov.ro/resource-869039-D4.3_A-grid-for-programme- design.pdf.

2. Information about participant

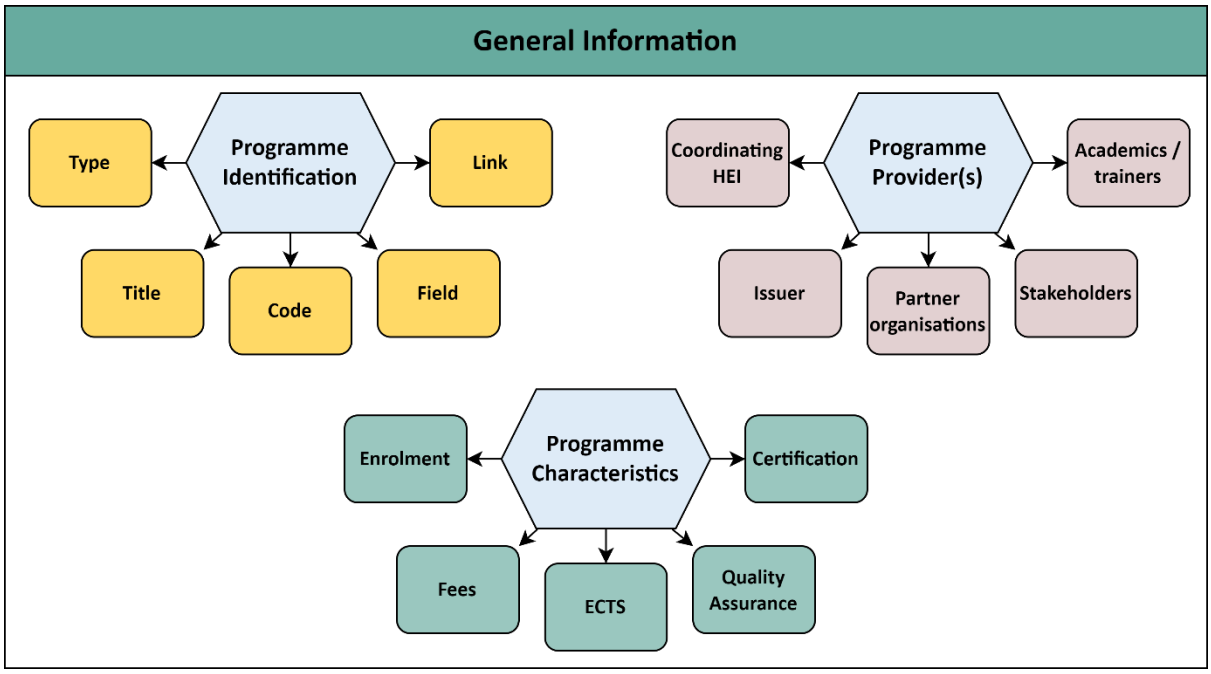
Piloting university

Name and email of contact persons

	Name	Email	Position
Person filling the survey			
Person in charge / as contact for the programme			
Other			

3. The "General information" section of the grid

The **"General Information"** section serves as the foundational introduction to the proposed learning activity. The provision of key general information in this section encompasses vital aspects such as the activity's categorical type, its distinctive title, potential code if applicable, relevant field of study, and the thematic area it aligns with. This collective information enables learners to grasp the programme's comprehensive context and intrinsic relevance.



Type of learning activity

There are two different major approaches when dealing with such programmes, one designed as a micro-programme and another when the learning activity is not a micro-programme but a learning activity that leads to micro-credentials. If the learning activity is not a micro-programme, please select micro-credential. Some of the grid fields do not apply to micro-programmes, as it will be indicated at the respective spot.

- ○ Micro-credential
- ○ Micro-programme

Title

This is the official name of the Micro-credential programme / Micro-programme you are offering. It should be clear and descriptive. We also recommend a shorter and concise title which reflects the main topic of the activity. *Example: Excel for administrative purposes.*

Code *(if case)*

You can use the university related code if the activity is already part of the existing curriculum or, if the first is not possible, provide a new code, used also for the registration of the programme in the university's platform(s) and for other identification purposes (marketing, certification, etc.).

Field of study / field of education and training

The fundamental field of study and specific topics. If the coordinating university allows, and if the national context permits, the International Standard Classification of Education (ISCED) fields of education and training (ISCED-F 2013) could be used and selected from the list below. If this is not possible / desired (for different reasons), please mention which is the field of study covered by the micro-credential programme.

If the micro-credentials programme is aimed to be an interdisciplinary / a transdisciplinary programme, please enlist all the fields of study / fields of education and training covered by the programme. This information must also be specified when describing the programme's content, for each module / learning activity included in the programme, to make the connection between the fields visible. *Example: social sciences, natural sciences, humanities, etc.*

- ☐ 00 – Generic programmes and qualifications
- ☐ 01 – Education
- ☐ 02 – Arts and humanities
- ☐ 03 – Social sciences, journalism, and information
- ☐ 04 – Business, administration, and law
- ☐ 05 – Natural sciences, mathematics, and statistics
- ☐ 06 – Information and Communication Technologies
- ☐ 07 – Engineering, manufacturing, and construction
- ☐ 08 – Agriculture, forestry, fisheries and veterinary
- ☐ 09 – Health and welfare
- ☐ 10 – Services
- ☐ Other

Thematic area(s) / Detailed education and training field(s)

Derived from the fundamental field of study mentioned in the previous field of the grid, please further mention the thematic area(s) or the detailed education and training field(s) (if the field has been selected from the ISCED list), selecting from the detailed list accessible **here.** If this is not possible / desired, please mention which thematic area(s) is/are covered by the micro-credential programme. If the micro-credentials programme is interdisciplinary / transdisciplinary, please make sure to enlist all the relevant thematic areas / detailed education and training fields covered by the programme.

Coordinating university

Indicate the full official name (and English version if the official name is in another language) and the acronym of the coordinating university. If the programme is coordinated by more than one university, please name all universities that coordinate the programme.

Organising faculty / school / department

Indicate the internal structure(s) of the coordinating university that deal with the implementation of the micro-credentials programme (faculty, school, department, etc.). If the programme is coordinated by more than one university, please name all internal structures that coordinate the programme.

Country and/or region of the issuer

Indicate the country and/or region of the university that will issue the micro-credentials certification at the end of the micro-credentials programme. Please be aware that the issuing country's regulations in place will prevail when dealing with specific aspects for designing and implementing micro-credentials programmes (such as the format of the certification, for example).

Partner universities *(other higher education institutions involved)*

Indicate the full official name (and English version if the official name is in another language) and the acronym of the partner universities involved in the overall implementation of the micro- credentials programme, as well as their role in the programme (credit-awarding, key partner, academic team members, etc.).

Stakeholders *(NGOs, non-higher education institutions, etc.)*

Indicate any non-higher education institution partner(s) that play a role in the overall implementation of the micro-credentials programme, as well as their role. This can include any relevant partner institution, stakeholders, key actors, other institutions that are engaged in the implementation of the programme. *Example: IT company - delivering training for students, hospital - hosting research activity of students, museum - providing learning resources, private company, any other collabourator from outside HEIs to deliver the course.*

Academic coordinator

Indicate the full name, academic position, role in the university, and contact details of the main coordinator of the programme. Normally, the main coordinator of the programme is based at the coordinating university, but, in exceptional cases, this can differ. If there are more than one coordinator of the programme, indicate the required information for each of them, as well as their institution (especially if they are not from the coordinating university).

Students' enrolment *(information regarding the registration procedure, web page)*

Indicate how the programme coordinators will manage the students' enrolment in the programme, both as a process and as tools used for this process, as well as the information to be disseminated to interested applicants (webpage, registration link, registration form, etc.). Please make sure the student management tools and the universities managing them apply the European regulations for data protection when dealing with personal information of the students.

Quality assurance *(mention the mechanism and responsible body, e.g. faculty / university committee)*

Indicate the quality assurance mechanisms in place for this programme, as well as all the processes, bodies, and other information that describe the overall quality assurance of the programme. All quality assurance processes for underpinning the programme must be in line with the European Standards and Guidelines (ESGs). This information is required for both external and internal quality assurance mechanisms in place, based on the regulations and practices in place at the coordinating university and the respective country. Where possible, European quality assurance mechanism should be used.

Certification *(diploma + diploma supplement; certificate; badge + metadata etc.)*

Indicate the type of certification issued for the graduating students of the micro-credentials programme, based on specific regulations and practices at the level of the coordinating university and respective country, as well as the agreement at consortium level (for micro-credentials programmes awarded in partnership with other higher education institutions). The information here should mention not only the type of document issued to graduating students, but also other related documents in place (such as Diploma Supplement, for example) and the issuing format (on paper / on paper & digital / only digital). As modularisation is at the core of designing micro- credential programmes, it is recommended also to consider partial certificates for learners that accomplish only part of the programme (for example: 2 learning units / modules / activities / components out of 4), where partial certifications can be issued to attest the successful completion of the respective parts of the programme.

The NewFAV Certificate model can be accessed here.

In case of digital certificates, we recommend using the European Digital Credentials for Learning (EDCL) tool provided by the European Commission, interconnected with Europass and based on blockchain technology. The platform allows not only issuing the certificate, but also designing it and managing the entire process. More information **here.** *Example: Diploma, Certificate, Badge, other (to be mentioned)*

ECTS recognition *(depending on each higher education institution's internal regulation)*

Indicate, if possible, how the ECTS credits awarded at the end of the programme will be integrated in the students' study programmes or other learning activities, based on specific regulations and practices in place at the coordinating university. If the programme is awarded to students from other higher education institutions, this information can be provided, if possible, with the support of the respective universities or general recognition statements can be used (such as: "Recognition fully depends on the regulations and practices in place at the students' home university and does not fall under the responsibility of the issuing university").

Tuition & fees

Specify the total cost of the micro-credential programme. This should include tuition for all courses and any mandatory fees. If there are scholarships, grants, or financial aid options available for students, then provide information on how to apply, as well as the eligibility criteria. If there are additional costs for textbooks, software, or other materials required for the programme, provide an estimate. *Example: The total cost of the Micro-credential in Data Science is 2,500 euros, which covers all course materials and access to online resources. Tuition is payable in three instalments. We offer a limited number of need-based scholarships. Eligibility criteria and application details can be found on our website (link to website to be provided).*

Link to the webpage *(if applicable)*

Indicate the link to the webpage location that provides further information about the micro- credential programmes, as well as the registration information for candidates and other relevant information. This webpage can be either situated on the website of the coordinating and partner universities, but it can also be situated on different platforms (such as Coursera, EdX, Udemy, etc.).

4. Feedback on "General Information" section

Your feedback on this section is crucial as we pilot this programme design tool. Please help us improve it by answering the following questions and providing your valuable insights.

Were the instructions and definitions in this section easy to understand?

- ○ Yes
- ○ No

Do the fields in this section cover all the necessary information for your university to design and implement potential micro-credential programmes?

- ○ Yes
- ○ No

Are there any essential pieces of general information you would add to this section? *(Please explain)*

On a scale of 1 (Not useful) to 5 (Extremely useful), how would you rate the overall usefulness of this section in designing and implementing micro-credential programmes?

(1) Not useful
(2) Somewhat useful
(3) Neutral / moderately useful
(4) Useful
(5) Extremely useful

On a scale of 1 (Not clear) to 5 (Extremely clear), please rate the clarity of the instructions and definitions in this section.

(1) Not clear
(2) Somewhat clear
(3) Neutral / moderately clear
(4) Clear
(5) Extremely clear

On a scale of 1 (Incomplete) to 5 (Very comprehensive), please rate the completeness of the fields included in this section.

(1) Incomplete
(2) Somewhat incomplete
(3) Halfway there
(4) Comprehensive
(5) Very comprehensive

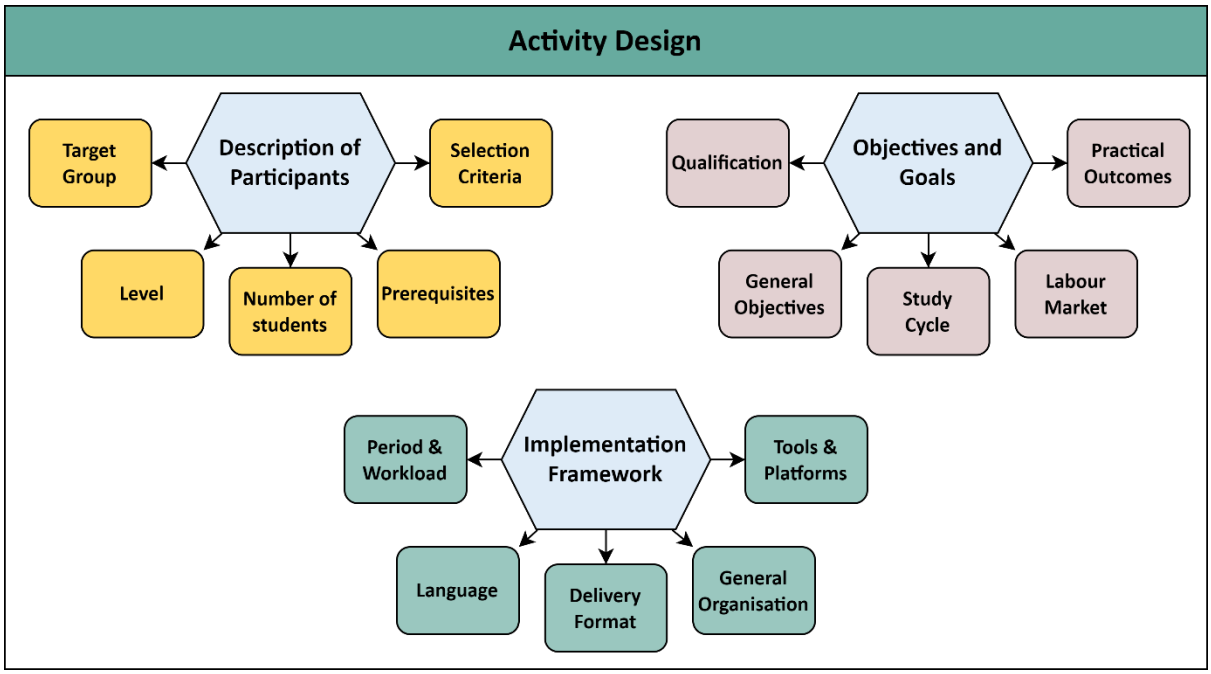
On a scale of 1 (Difficult to use) to 5 (Very easy to use), please rate how easy it is to understand and navigate this section.

(1) Difficult to use
(2) Somewhat difficult to use
(3) Nor difficult, nor easy
(4) Easy to use
(5) Very easy to use

Please suggest any specific way this section could be improved.

5. The "Activity Design" section of the grid

The **"Activity Design"** section of the grid focuses on the descriptive components of the educational activity, related to the scope and objectives, the target group aimed for the activity, and the overall areas of implementation.



Target group ***(students at bachelor / master / doctoral level; lifelong learners; etc.)***

Indicate the micro-credential programme's target group description, such as the education level, academic background, professional profiles, and any other specific descriptors needed to characterise the target group addressed by the micro-credential programme. It is also very important to mention whether the programme addresses already enrolled students (people who, for the entire duration of the programme are student at a European higher education institution,

for example), traditional students (people who have recently graduated from secondary, tertiary, or higher education programme and pursue a new learning opportunity), or non-traditional students (people who have graduated from secondary, tertiary, or higher education programme(s) a long time ago and are in need for a re-skilling or up-skilling learning opportunity), or a mixture of these. This information is very helpful not only for providing a better understanding on what the programme is about, but especially to better address this programme to the dedicated target group (for marketing purposes, for example).

- ☐ Undergraduate students
- ☐ Postgraduate students
- ☐ Doctoral candidates / students
- ☐ Researchers
- ☐ Academics
- ☐ Lifelong learners
- ☐ Other

Level (and cycle, if applicable) of the learning experience leading to the Micro-credential (EQF, QF-EHEA) *(if applicable)*

Mention the educational level of the micro-credential programme (such as undergraduate, graduate, or professional development), using the levels of the European Qualifications Framework (EQF) and/or the National Qualifications Framework (NQF) of the country of the issuing university.

- ○ Level 5 EQF
- ○ Level 6 EQF
- ○ Level 7 EQF
- ○ Level 8 EQF
- ○ Other

Qualification (EQF/NQF)

Specify to which qualification the micro-credential programme is leading, based on the EQF and/or NQF. If this is not possible, indicate the related occupation(s), based on **ESCO** (European Skills, Competencies, Qualifications and Occupations) that are linked with the competencies and learning outcomes provided by the micro-credential programme.

General organisation *(intensive / modular / regular)*

Mention the type of the general organisation of the micro-credential programme, based on the planned activities (further detailed in the activity content component):

- **Intensive:** designed activities will be held in a short period of time with high frequencies *(example: 40 hours per week, for two weeks)*
- **Modular:** designed activities will be organized in learning blocks with an irregular frequency *(example: blocks of 10 hours per week, divided over a longer period through a calendar)*
- **Regular:** designed activities organized over a longer period with regular frequency.

○ Intensive ○ Modular ○ Regular

Description of the workload for the students *(for the total number of hours resulted from the number of ECTS credit points 1 ECTS = 25-30 hours and their distribution per activity)*

Break down the total number of hours students are expected to invest in the programme. Also, explain how these hours are distributed between individual work and contact hours with professors.

- Number of contact hours: xx hours
- Individual student workload: xx hours
- Total workload: xx hours

Contact hours refer to: face-to-face / online / synchronous lectures, field learning, supervised assessment, team projects, interactive learning, etc.

Individual student workload refers to: independent study time (mandatory bibliography, prerecorded lectures, lecture materials and class notes, other resources), research, projects, homework, etc.

Total workload is the sum between the contact hours and individual student workload.

Example: Students are expected to invest 40 hours of individual practical work at home, including simulations and a final Project. The rest of the hours will take place virtually with the course instructors.

	Number of hours
Number of contact hours	_____
Individual student workload	_____
Total workload	_____

Estimated ECTS credit points *(to be correlated with the workload)*

If applicable, specify the number of ECTS associated with the micro-credential. The number of minimum and maximum ECTS possible depends on the regulations and practices in place at the coordinating university and/or in the issuing university's country. The number of awarded ECTS credit points must correspond to the workload associated with each learning activity that constitutes the micro-credential programme, considering between 25-30 hours for each ECTS credit point (where the final number, meaning here the selection of hours per each credit point, depends on the coordinating university's accreditation system and internal regulations in place).

- ○ 1 ECTS: 25 - 30 hours
- ○ 2 ECTS: 50 - 60 hours
- ○ 3 ECTS: 75 - 90 hours
- ○ 4 ECTS: 100 - 120 hours
- ○ 5 ECTS: 125 - 150 hours
- ○ 6 ECTS: 151 - 180 hours
- ○ 7 ECTS: 181 - 210 hours
- ○ 8 ECTS: 211 - 240 hours
- ○ 9 ECTS: 241 - 270 hours
- ○ 15 ECTS: 375 - 450 hours
- ○ Other

Duration of the activity *(total duration and no. of hours per week / month / semester, etc.)*

State how long it takes to complete the micro-credential programme, whether in weeks, months, semesters, or any other relevant time unit, according to the general organisation and total number of contact hours. Indicate here the total duration of the programme, including all planned activities, as well as the assessments and other related components.

	Unit of measure (days / weeks / months / semesters / etc.)	**Total number of hours per unit of measure**	**Number of contact hours per unit of measure**
Duration of the activity	_____	_____	_____

Type of delivery (online / face to face / blended / hybrid)

Describe how the programme is delivered, whether it's fully online, face-to-face in a physical location, a combination (blended), or a mix of both (hybrid).

Online: all instruction and learning activities take place over the internet. Students access course materials, lectures, assignments, and interact with instructors and peers through online platforms.

Face-to-face: all instruction and learning activities involve traditional, in-person classroom instruction.

Blended: online activities and face to face activities. In case of blended, mention the division of contact hours for each type.

Hybrid: synchronous activities both for face to face and online participants at the same time.

- ○ Online
- ○ Face-to-face
- ○ Blended
- ○ Hybrid
- ○ Other

Implementation period - start date

Provide the start dates of the programme's availability. This helps applicants know when they can enrol, including in this period all the activities, including the assessment and all included activities and components of the micro-credential programme.

Month ☐ Day ☐ Year ☐

Implementation period - end date

Provide the end dates of the programme's availability. This helps applicants know when they can enrol, including in this period all the activities, including the assessment and all included activities and components of the micro-credential programme.

Month ☐ Day ☐ Year ☐

Number of students / learners *(minimum & maximum number)*

Mention the minimum and maximum (if any) number of students / learners (for face to face and blended activities division of local and incoming students) that can enrol in the micro-credential programme. The number must be based on the decisions of the coordinating university (and partner universities, if case) and the regulations and practices at the coordinating university and the issuing country, as well as other factors to be considered for the successful implementation of the programme (logistics, financial, extension of learning groups, etc.).

	Number
Minimum number of students	_____
Maximum number of students	_____

Practical work required to achieve the learning outcomes *(expressed in hours)*

State the number of hours dedicated to practical activities necessary to achieve the programme's learning outcomes. While the existence of such activities is not mandatory for all types of micro-credential programmes, it is recommended especially for programmes dedicated for professional re-skilling and up-skilling, as it better connects the learning outcomes with specific professional contexts.
Example: To successfully achieve the learning outcome students are expected to dedicate a total of

approximately 40 hours to practical activities. These practical activities include. Database Design Project (20 hours) and Database Security Simulation (20 hours).

Objectives of the micro-programme / micro-credential

Clearly outline the educational goals and what students can expect to learn or achieve upon completing the micro-credential programme. This section is not for enlisting the competencies or the learning outcomes (present later in the grid), but for expressing the overarching the learning objectives of the programmes. *Example: Acquire advanced SQL querying skills to efficiently retrieve and manipulate data from relational databases.*

Prerequisites *(minimal requirements for students' enrolment)*

Enumerate any conditions or fundamental criteria that prospective students must fulfil to enrol in the programme (this is also linked with the characteristics of the target group and must be correlated accordingly). This may encompass prerequisites like educational credentials or relevant prior experience, which can range from possessing a degree to having completed a higher school education, as well as coming from specific professional environments.

Selection criteria *(if any)*

If there are criteria for selecting students, such as a competitive admissions process, maximum number of students, other motives, describe them here. Please be aware that, in some cases, due to existing practices and regulations in different higher education institution and/or countries, no selection is allowed if the applicants fulfil the admission criteria. In some cases, the selection criteria can become admission criteria, based on the specific needs of the expected target group and the objectives of the micro-credential programme, and must also be closely correlated with the prerequisites for applying to the programme (if case). *Example: motivation letter, CV, interview, bachelor thesis, etc.*

Language(s) *(also mentioning the minimum level required)*

Indicate the language of the activities foreseen in the micro-credential programme, as well as the minimum level the applicants must possess to be able to participate and successfully graduate the programme, based on the Common European Framework of Reference for Languages (CEFR) levels or other similar language level reference system. In the case of two or more languages, enlist them mentioning also how these languages will be used throughout the entire duration of the programme. *Example: minimum level in French B2, English level C1 recommended; all discussions will take place in English, but some of the reading resources are in French.*

Tools for synchronous / asynchronous communication and learning

Indicate what platforms and/or tools will be used for ensuring the teaching and learning activities included in the programme, as well as those used for synchronous and/or asynchronous learning and communication (by case). This information is important so that learners can be aware in due time of the required platforms and tools and request support if encountering any technical obstacles. Also, it would be recommended that the coordinating university provides also short guides / resources to use the selected platforms / tools, so that learners can access them and use to connect to the teaching and learning activities and communications. *Example: Moodle, Zoom, Microsoft Teams, Google Meet, Google Classroom, Mentimeter, Kahoot, etc.*

6. Feedback on "Activity Design" section

Your feedback on this section is crucial as we pilot this programme design tool. Please help us improve it by answering the following questions and providing your valuable insights.

Were the instructions and definitions in this section easy to understand?

- ○ Yes
- ○ No

Do the fields in this section cover all the necessary information for your university to design and implement potential micro-credential programmes?

- ○ Yes
- ○ No

Are there any essential pieces of general information you would add to this section? *(Please explain)*

On a scale of 1 (Not useful) to 5 (Extremely useful), how would you rate the overall usefulness of this section in designing and implementing micro-credential programmes?

(1) Not useful
(2) Somewhat useful
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(1) Incomplete
(2) Somewhat incomplete
(3) Halfway there
(4) Comprehensive
(5) Very comprehensive

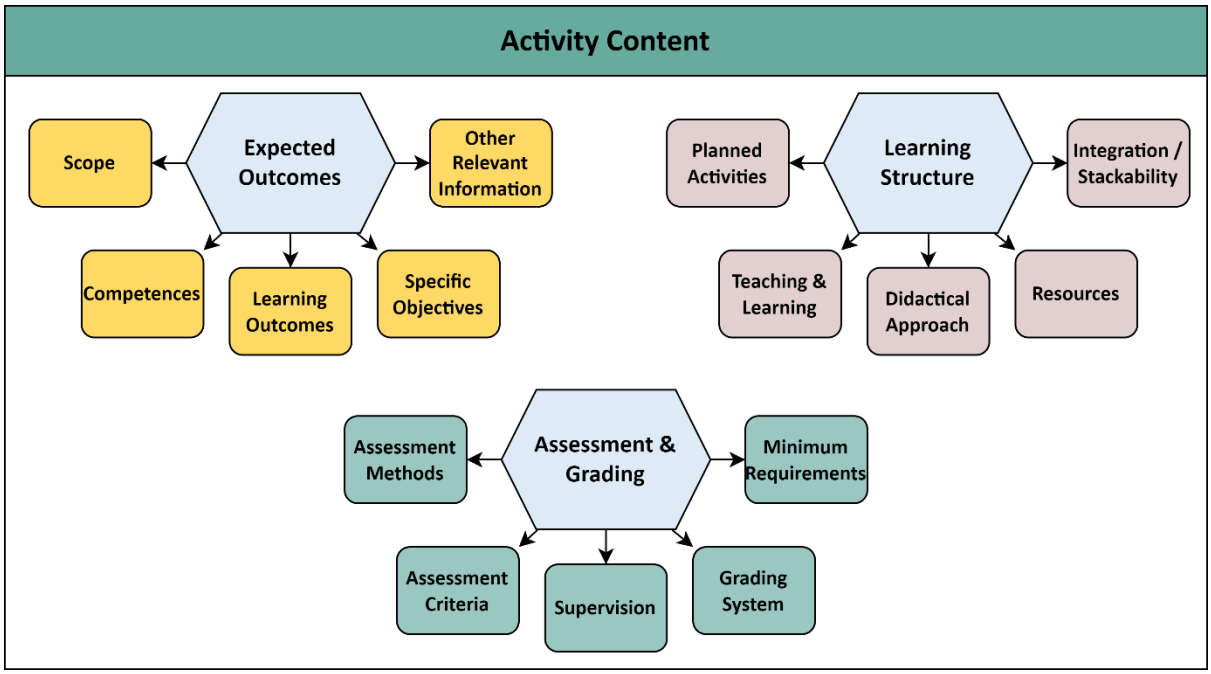
On a scale of 1 (Difficult to use) to 5 (Very easy to use), please rate how easy it is to understand and navigate this section.

(1) Difficult to use
(2) Somewhat difficult to use
(3) Nor difficult, nor easy
(4) Easy to use
(5) Very easy to use

Please suggest any specific way this section could be improved.

7. The "Activity Content" section of the grid

The **"Activity Content"** section of the grid focuses on teaching and learning approaches, processes, and outcomes included in the programme, from learning outcomes to teaching practices and assessment.



Scope

Define the overall scope of the micro-credential programme, considering what specific area or topic it covers. The scope must be short and concise, correlated with the programme's main topic. While the scope may be easily mistaken as the objective of the programme (present earlier in the grid), the scope is more connected with the programme's content, while the objective is general and is more linked with the professional / academic outcome(s) of the programme. *Example: This micro-credential focuses on Data Analytics in Healthcare; This micro-programme will provide you with a better understanding on economic globalisation in 21st century.*

Competencies

Indicate the competencies acquired by the learners upon graduating the micro-credential programme, in terms of learning outcomes and contents. Programme designers can use the **European list of key competencies** as a starting point and further detail from that point, or other lists of competencies considered suitable for better describing the finalities of the programme (such as the occupations' descriptors, for example). The listed competencies must be specific, restrictive, and closely linked with the programme's contents and activities. *Example: Upon completion, students will be competent in statistical analysis, data visualization, and healthcare data interpretation.*

Learning units / modules / activities / components

Mention and describe the different learning units / modules / activities / components that build up the micro-credential programme. As modularisation is at the core of building micro-credential programme in higher education, it is recommended that the micro-credential programme is designed in different learning units / modules / activities / components that are interconnected (mentioning the exact sequence and/or connection between them) and all pursue the achievement of the planned competencies and learning outcomes. In the next section of the grid, "Description of the learning activity", each of the learning unit / module / activity / component will be described individually, while this section is only for mentioning them and their connection with the others.

Example: there are four learning units in this micro-credential; there are three modules in this micro-programme, each one comprising two learning units; for achieving the micro-credential certificate, learners must graduate all four learning units in a successive order: Unit 1, Unit 2, Unit 3, and Unit 4, each unit being a prerequisite for the next one (Unit 1 for Unit 2, and so on).

How many learning units / modules / components does your programme include?

○ 1 ○ 2 ○ 3 ○ Other

Description of the learning unit / module / activity / component

(A separate section will be filled for each learning unit / module / activity / component included in the micro-credential programme)

General description of the learning unit / module / activity / component, mentioning here title (and number if case) and a short description of the main topic(s) and planned activities.

Student workload, expressed in number of hours, divided by number of contact hours and individual student workload. Please consider that the total amount of the workload of all learning units / modules / activities / components must be equal to the overall workload mentioned earlier in the grid.

	Number of hours
Number of contact hours	_____
Individual student workload	_____
Total workload	_____

ECTS credit points for each unit / module / activity / component, based on the specific workload mentioned one row above. Please consider that the total amount of credit points of all units / modules / activities / components must be equal to the credit points awarded to the students at the end of the micro-credential programme.

- ○ 1 ECTS: 25 - 30 hours
- ○ 2 ECTS: 50 - 60 hours
- ○ 3 ECTS: 75 - 90 hours
- ○ 4 ECTS: 100 - 120 hours

- 5 ECTS: 125 - 150 hours
- 6 ECTS: 151 - 180 hours
- 7 ECTS: 181 - 210 hours
- 8 ECTS: 211 - 240 hours
- 9 ECTS: 241 - 270 hours
- 15 ECTS: 375 - 450 hours
- Other

Teaching and learning methods used in the learning unit / module / activity / component, with a specific accent on the pedagogical innovation practices that foster new approaches to teaching and learning in higher education in these contexts. A possible inventory of innovative pedagogical components in higher education could be accessed here, for example (there are many similar resources, of course).

Bibliography / reading list / references, clearly mentioning which of the resources are part of the compulsory / mandatory list of readings for the successful graduation of the programme and which of them are optional. The reference style used will be the one specific to the programme's main field of study (APA, Chicago, Harvard, etc.).

For each learning unit, explain the **didactical approach,** whether it's theoretical, practical, or a combination. Provide an overview of the topics covered and the expected student activities within each unit. *Example: Learning Unit 1 "Introduction to Healthcare Data" provides a theoretical foundation for understanding healthcare data sources and their importance; Learning Unit 2 etc.*

Do you want to provide the Activity Content section for the second learning unit / module / component?

- Yes, I would like to include information about the second unit / module / component *(if chosen, the participants can fill another **"Description of the learning unit / module / activity / component"** section)*
- No, I would like to move further in the grid

Lecturers *(names and affiliation)*

List the names and affiliations of the lecturers / trainers / instructors who will be teaching / training in the micro-credential programme and mention, if possible, the specific learning units / modules / activities / components for each of the lecturers / trainers / instructors.

Learning outcomes

Specify the content learning outcomes, which are the specific knowledge or abilities students should gain. It is recommended to divide the learning outcomes for each learning unit / module / activity / component, where possible, and link also with the ECTS distribution. If the learning outcomes are mentioned only at programme level, partial certification cannot be provided, as there is no proof of the specific achievement of the learning outcomes for each unit / module / activity / component. *Example: Students will understand how to analyse patient data to identify trends and make data-driven decisions in healthcare; students will be able to have a deeper knowledge on the economic consequences of globalisation in different geographic areas.*

Integration / stackability options *(stand-alone, independent micro-credential/integrated, stackable towards another credential)*

Describe whether this micro-credential can be taken as a stand-alone programme only or if it can be also integrated into a larger credential. Explain if it is stackable, meaning it can be counted toward another credential, such as a degree, etc., and the relationship with other components of the larger credential. *Example: this micro-credential can be taken independently or as part of our Master's in Healthcare Data Science programme.*

Assessment method(s)

Assessment method(s) used to prove and evaluate the student performance and acquisition of the planned competencies and learning outcomes foreseen for the learning unit / module / activity / component (written/oral examination, portfolio, individual / team project, tests, essay).

Assessment is mandatory when awarding ECTS credit points and must be part of the design of the micro-credential programme. Various assessment methods can be used, as well as different types (formative, summative, initial, etc.) throughout the programme and the included learning units / modules / activities / components. If assessment is used only at the programme level (and not for each learning unit / module / activity / component), partial certification cannot be provided, and the assessment must ensure the achievement of all learning outcomes included in the programme.

Example: assessment will be based on a combination of quizzes, a final project, and peer-reviewed assignments.

Assessment criteria

Clearly outline the evaluation criteria in use to assess the student performance. Clearly outline the evaluation techniques employed to assess the student performance, with an emphasis on the acquisition of competencies and skills (mathematical methods/physical models and theories ability to indicate/analyse specific examples ability to use specific problem-solving methods ability to analyse

the results, etc.). *Example: quizzes will be multiple-choice, the final project will require data analysis and a report, and peer-reviewed assignments will assess collaboration and critical thinking.*

Supervision and identity verification during assessment *(unsupervised with no identity verification, supervised with no identity verification, supervised with identity verification, etc.)*

Explain how assessments will be supervised and whether identity verification measures will be implemented. Specify if assessments are unsupervised with no identity verification, supervised without identity verification, or if there are other methods in place. Example: assessments will be supervised through online proctoring with identity verification to maintain academic integrity.

- ○ Supervised, on site, with identity verification
- ○ Supervised, online, with identity verification
- ○ Supervised, on site, without identity verification
- ○ Supervised, online, without identity verification
- ○ Unsupervised, on site, with identity verification
- ○ Unsupervised, online, with identity verification
- ○ Unsupervised, on site, without identity verification
- ○ Unsupervised, online, without identity verification
- ○ Other

Composition of final mark

Indicate how the final mark will be composed, also mentioning percentages and/or weights of each component, especially where the mark is not only based on the assessment, but on other types of contributions to the programme (active participation, volunteering activities, observation, projects, etc.). *Example: final exam / project, etc: 40%; assignments during semester (practical activities / projects, essay): 25%; class participation: 10%; intermediate exams (during semester): 25%.*

Minimal requirements for passing the exam / learning activity

Mention the minimal requirement for passing the examen and successfully graduating the micro-credential programme and/or each of the learning units / modules / activities / components included in the programme. This could mean a specific mark of percentage, or other specific requirements considered optimal for the programme, also aligned with the existing regulations and practices in place. *Example: attendance of at least 50% for the lectures and at least 70% for the tutorials; correct solutions to the indicated subjects for obtaining the grade 5 from all activities, part of the continuous evaluation; correct solutions to the indicated subjects for obtaining the grade 5 within the final exam.*

Grading system *(Ex.: 0 to 10, where 5 is the minimum passing grade; Pass / Fail)*

Indicate how students will be graded, the minimum grade for passing, and if applicable, specify the passing grade or grading criteria. *Example: students must achieve a minimum grade of 70% to pass the micro-programme / micro-credential. Each subject is graded on a scale from 0 to 10 points. To pass a subject it is necessary to get at least 5 points.*

Other relevant information

Include any additional information that is pertinent to the course, such as resources, technology requirements, and policies. *Example: students are required to have access to statistical analysis software such as R or Python. Technical support is available for troubleshooting.*

8. Feedback on "Activity Content" section

Your feedback on this section is crucial as we pilot this programme design tool. Please help us improve it by answering the following questions and providing your valuable insights.

Were the instructions and definitions in this section easy to understand?

- ○ Yes
- ○ No

Do the fields in this section cover all the necessary information for your university to design and implement potential micro-credential programmes?

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- ○ No

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(5) Very comprehensive

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(2) Somewhat difficult to use
(3) Nor difficult, nor easy
(4) Easy to use
(5) Very easy to use

Please suggest any specific way this section could be improved.

9. A 12-step checklist for the design of a micro-credential programme

To support higher education institutions to design and implement micro-credential programmes, we considered a 12-step checklist that would guide relevant people from the idea to the implementation, either if they are academics or trainers, either if they are administrative people supporting the process. Also, this checklist aims to support universities build their own guidelines related to the design and implementation of future micro-credential programmes.

You do not need to fill all the steps, but your reflection around the checklist would be more than appreciated. A 12-step checklist for the design of a micro-credential programme

To support higher education institutions to design and implement micro-credential programmes, we considered a 12-step checklist that would guide relevant people from the idea to the implementation, either if they are academics or trainers, either if they are administrative people supporting the process. Also, this checklist aims to support universities build their own guidelines related to the design and implementation of future micro-credential programmes.

You do not need to fill all the steps, but your reflection around the checklist would be more than appreciated.

	Status	**Outcomes** *(Results of each step)*	**Comments** *(Considerations after each step)*
1. Identifying the programme proposal Identify the main topic(s) of the programme and it's need in the overall offer of the university, linking it with the university's mission and the main strategic objectives in education and training offerings.	○ Not started ○ In progress ○ Done		
2. Fitting the programme Acquire the initial approvals at university level (as well as the adequate internal body/bodies that will support the implementation, such as the department, for example) and fit the programme in the university's educational offer (part of the curriculum of some programmes or in the lifelong learning offer of the university).	○ Not started ○ In progress ○ Done		
3. Setting internal team Based on the internal regulations and practices in place at the coordinating university level, when dealing with micro-credential programmes (if this is without precedent, the regular programme establishment processes should be considered as a starting point), a list of internal personnel and offices will be drafted to support the programme coordinator(s) in the design and implementation process.	○ Not started ○ In progress ○ Done		

	Status	Outcomes *(Results of each step)*	Comments *(Considerations after each step)*
4. Drafting the initial format of the programme proposal The programme coordinator(s), along with other relevant peers / partners (if case), drafts the initial format of the programme, starting with the grid's "Activity Content" section (it sounds paradoxical, considering the order of the sections, yet it is advised to start from the content ideas). The first version of the programme is a starting point for the next steps, so it will be subjected to many updates and improvements. While working on the content component, the programme coordinator(s) also start preparing the list of potential academics / lecturers / trainers / instructors that will be part of the extended team of the programme.	○ Not started ○ In progress ○ Done		
5. Revising the first draft of the programme proposal Internally at the coordinating university, the programme coordinator(s) check the first draft (based on the grid's "Activity Content" section) and collect relevant feedback from the respective bodies at university level. At this stage, the programme coordinators already consider asking for feedback related to the second section of the grid, "Activity Design", especially related to the administrative checks needed to ensure the successful implementation of the programme: period, ECTS, qualification, format, number of students (aspects that are not entirely under the decision of the programme coordinators).	○ Not started ○ In progress ○ Done		
6. Designing the next version of the programme proposal Based on the initial round of feedback and suggestions, the programme coordinators update the "Activity Content" section of the programme grid, while starting to work on the second section, "Activity Design". At this stage, it is recommended to already include an extended team in the discussions, such as, for example, the team of academics / lecturers / trainers / instructors that will be part of the programme (even if, at this moment, the list may not be final).	○ Not started ○ In progress ○ Done		
7. Working on the programme details While moving closer to the first complete draft of the programme, the programme team also prepares the first section of the grid, "General Information", being supported again by internal team at coordinating university, especially for aspects such as: tuition & fees, students' enrolment, quality assurance, certification, ECTS recognition, digital components & tools, etc.	○ Not started ○ In progress ○ Done		

	Status	Outcomes *(Results of each step)*	Comments *(Considerations after each step)*
8. Fine-tuning the programme proposal A complete first draft is submitted for feedback and final checks to the internal team at the coordinating university, as well as for feedback from partners and extended academic team. A refined version is prepared based on the received feedback and it is ready for the next steps.	○ Not started ○ In progress ○ Done		
9. Quality assurance & accreditation With support from internal team at coordinating university, the micro-credential programme is submitted for quality assurance processes that will underpin the programme, based on regulations and practices in place. Depending on the coordinating university and issuing country, the process can be internal or external and will require a specific timing and some additional resources to be considered.	○ Not started ○ In progress ○ Done		
10. Marketing and promotion The programme, once successfully approved by internal / external body/-ies dealing with quality assurance processes and accreditation, the micro-credential programme is being prepared for dissemination and promotion, with the support of the internal team at coordinating university. Based on the specific regulations and practices in place, a timeline is set for the dissemination, applications, registrations, and selections processes needed to prepare the first student intake in the programme. This timeline can differ depending on the target group, implementation period, format, prerequisites, and many other factors.	○ Not started ○ In progress ○ Done		
11. Launching the programme The programme is successfully launched and takes its first student intake, developing the planned activities and components based on the descriptions in the design and implementation grid.	○ Not started ○ In progress ○ Done		
12. Evaluating and updating the programme After the first intake(s), the programme coordinators, with the support of the internal team at the coordinating university, assess the programme (feedback from students, academics, other inputs, etc.) and check what needs further improvements and makes them accordingly. The grid can be used for this purpose also, as a new version of the grid could become the descriptive document of the new edition of the micro-credential programme.	○ Not started ○ In progress ○ Done		

10. Feedback on the 12-step checklist

Your feedback will help us improve this checklist and ensure its usefulness for universities designing and implementing micro-credential programs. Please take a few minutes to rate the checklist as a whole and provide your valuable comments.

On a scale of 1 (Not clear) to 5 (Extremely clear), how easy is it to understand the steps within this checklist?

(1) Not clear
(2) Somewhat clear
(3) Nor unclear, nor clear
(4) Clear
(5) Extremely clear

On a scale of 1 (Incomplete) to 5 (Very comprehensive), does this checklist cover all the essential aspects of designing and implementing a micro-credential programme?

(1) Incomplete
(2) Somewhat incomplete
(3) Neutral
(4) Comprehensive
(5) Very comprehensive

On a scale of 1 (Not feasible) to 5 (Very feasible), how feasible is it to follow the steps outlined in this checklist within your university's context?

(1) Not feasible
(2) Somewhat feasible
(3) Neutral / Moderately feasible
(4) Feasible
(5) Very feasible

How could this checklist be improved?

Are there any important steps in the design and implementation of micro-credentials that are not covered in this checklist?

Are there specific factors or requirements within your university or national higher education system that this checklist should address?

Do you have any suggestions related to the checklist, such as combining or eliminating steps, changing the order, or other aspects?

11. Summative Feedback

Your insights will help us refine this tool and make it as effective as possible for universities. Please provide your overall impressions and suggestions for improvement.

On a scale of 1 (Difficult) to 5 (Very Easy), how easy was it to understand and work with the programme design grid (including the 3 sections and checklist)?

(1) Very difficult
(2) Difficult
(3) Nor difficult, nor easy
(4) Easy
(5) Very easy

How do you envision this programme design grid being used within your university? *(please select all appliable options)*

☐ Streamlining micro-credential development process
☐ Ensuring comprehensiveness of micro-credential design
☐ Facilitating collaboration among different departments involved in micro-credentials
☐ Professional development for departments / university
☐ Benchmarking existing programmes
☐ Quality assurance
☐ Strategic planning
☐ External communication
☐ Other

What kind of positive impact could this programme design grid have on micro-credential development at your university? *(please select all appliable options)*

☐ Improved quality and consistency of micro-credentials
☐ Increased efficiency in developing new micro-credentials
☐ Enhanced communication and collaboration within the university
☐ Responsiveness to market needs
☐ Flexibility
☐ Recognition
☐ Student-centredness
☐ Innovation
☐ Other

What is the MOST valuable aspect of this program design grid, in your opinion?

○ The clarity and structure of the sections
○ The comprehensiveness of the tools
○ The ease of use and navigation
○ The potential to improve micro-credential development at my university
○ Focus on practical implementation

- Alignment with standards
- Other

Would you recommend this programme design grid to colleagues at other universities involved in micro-credential development?

- Yes
- Maybe
- No

Is there anything you would like to mention and we did not ask?