Dear lecturers,

As part of the **SEA-EU University Alliance** your University takes part in task 2.3 on flexibilization of curricula and the development of **micro-credential offers** and study programmes in the learning field of **Future Skills** and **Sustainability Studies**. It is the idea of the Alliance to foster exchange, cross-border teaching and the offer of small learning units for students from all subjects in the two aforementioned topics in an **Alliance-wide exchange of virtual teaching.**

As lead of task 2.3 Kiel University organizes the provision of micro-credentials in the fields of "Future Skills" and "Sustainability Studies" for all Alliance students. With this Guidebook we aim to give you an idea of how you can open up your teaching for students from all other SEA-EU-Alliance universities. This is in many ways an ambitious endeavor. As we are on the way to establish the whole process, we chose to find pragmatic solutions while working on more sustainable and automated procedures in the long term. We agreed on establishing the two micro-credential Programmes for Future Skills and for Sustainability Studies.

We define micro-credentials as a small learning unit of 1-5 ECTS.
Micro-credentials provide learners with specific knowledge, skills and attitudes that meet the cultural, societal or market demands of our changing world. Micro-credential courses are open to students within the SEA-EU Alliance and the ECTS gained can be used within study programmes. In this way, students can supplement their studies with important future skills according to their own ideas and interests.

We don't expect students to travel to another country for a micro-credential course and therefore advise you to think of suitable courses preferably in English, which are offered online or in a hybrid format.

Do you have a course that covers the topic of "Future Skills" or "Sustainability Studies"? Would you like to enrich your course with participants from up to nine SEA-EU universities?

This Guidebook guides you through the process of a course offer, which can be summarized in three steps:
- Fill in the SEA-EU micro-credential course sheet and we add your offer to our course pool and make it visible to students at the Alliance
- The registration to the course for the SEA-EU students has to be done on the basis of the appropriate procedures of your university.
- At the end of the course, you or your University hand out the SEA-EU certificate to the successful SEA-EU-students. We will provide you with the pre-filled template for the certificate.

Perhaps we have piqued your interest and you would like to design a new course that addresses SEA-EU Alliance students? We have gained initial experience in designing such courses and would be happy to help you.

Yours sincerely
Wibke Matthes & Katrin Schmidtke

Key Skills Centre, Kiel University, SEA-EU task 2.3 micro-credentials

Guidebook

for teachers

Micro-credential course offers
for the
SEA-EU micro-credential programme
on
"Future Skills"
or
"Sustainability Studies"

Content of this Guidebook

1. Introduction

The content of this Guidebook is the result of the work of the SEA-EU task 2.3 micro-credential Expert group.

The task 2.3 micro-credentials within the SEA-EU Alliance is organising a micro-credential course offer for all students of the SEA-EU Alliance in the fields of Future Skills and Sustainability Studies.

Our aim is to create a course pool in the field of Future Skills and Sustainability Studies that contains course offers from all 9 Universities of the Alliance for all students of the Alliance.

We define micro-credentials as small learning units of 1-5 ECTS. You can find our full definition in the Annex 6: Definition SEA-EU task 2.3 micro-credentials

Students can pic only one course with for example 1 ECTS from the course pool or they can complete the whole micro-credential Programme on Future Skills or Sustainability Studies by covering at least three categories and by collecting at least 15 ECTS from the Programme.

In order to have a clearer definition of what we mean by Future Skills and Sustainability Studies, we have created two frameworks which you will find in chapter 2.

To open up some places in your existing course to the students from the Alliance or to offer a new course for the course pool, please take the following steps:
- Check whether your course fits into one of the categories of our Future Skills or Sustainability Studies framework (see chapter 2:). To do this, look at the competences/issues listed in the respective category and decide whether the learning objectives of your course develop one or more of these competences/issues.
- Fill in the course sheet, for more information see chapter 3
- Please organise for now the application and registration of the students at your University (in future there might be a common solution for this process for SEA-EU courses). For more information see chapter 4 . If you are unable to organise the application, we can offer to do so on your behalf. Please contact us in this case.
- Please hand out a course certificate to the SEA-EU students after their successful completion of the course, or use your university processes to confirm student achievement, if possible. For more information see chapter 5

2. Frameworks for the two micro-credential programmes

2.1. The SEA-EU micro-credential programme on „Future Skills"

For the Future Skills programme, we have created five meta categories that represent our definition of Future Skills. The courses offered as micro-credential course on "Future Skills" should fit in one of these categories.

Meta category	Competences
Higher order thinking competences	☐ Adaptability competences ☐ Problem solving competences ☐ Critical and Systems thinking competences
Self competences	☐ Active Learning competences ☐ Self-awareness competences ☐ Complexity and ambiguity competences
Social and communication competences	☐ Collaboration and networking competences ☐ Communication competences ☐ Leadership competences
Transformative competences	☐ Entrepreneurship competences ☐ Citizenship competences ☐ Global awareness competences
Digital and media competences	☐ Data Literacy competences ☐ Media literacy competences ☐ Digital collaboration competences

2.2. The SEA-EU micro-credential programme on „Sustainability Studies"

Meta-category	Issues
Sustainability as a concept	☐ Key concepts and principles of sustainability ☐ Evolution of the concept of sustainable development ☐ Introduction to corporate sustainability ☐ Implementing sustainability
Sustainable economy	☐ Responsible and sustainable production and consumption ☐ Corporate Social Responsibility and decent work ☐ Green, Circular and Blue Economy

Peace, justice and inclusion	☐ Resilience, Preparedness and Emergency Management ☐ Building equitable, inclusive societies ☐ Democracy and citizenship ☐ International and Environmental Law
Life on land and in water	☐ Sustainable food production ☐ Public health, poverty and well-being ☐ Biodiversity in ecosystems ☐ Hydrosphere, Oceans and Water Management
Climate change	☐ Consequences of climate change on the ocean ☐ Greenhouse effect ☐ Social, cultural and economic consequences of climate change
Sustainable cities and local communities	☐ Sustainable city planning ☐ People, Resources and Environment ☐ Sustainable tourism, travel and mobility ☐ Waste and recycling
Industry and Innovation for Sustainability	☐ Inclusive and sustainable innovation and industrialization ☐ Sustainable, innovative and resilient infrastructure development ☐ Clean Energy and Bioeconomy ☐ The sustainability of information and communication technology (ICT) including supply chains

For each Meta category you can offer a course with 1 to 5 ECTS (2,5 ECTS are also possible).

Please find the detailed two frameworks with definitions of all competences/issues and with learning outcomes for each category in Annex 1.

3. The micro-credential course sheet

If you want to offer a course for one of the SEA-EU micro-credential programmes, we will send you a fillable course sheet. Please send it back latest 6 weeks before start of the course application.

The information in the course sheet will be used for
- Course dissemination to all students of the Alliance
- Creation of the course certificate template, which we will make available for you
- Checking the fit of the course to the SEA-EU micro-credential Future Skills programme

The whole course sheet can be found in Annex 2

3.1. Course sheet - General Information

This section of the course sheet contains the main course information.

Course Title		Code
Course teacher		
Name, Institution, University: main teacher		
Name, Institution, University: associated teacher		
Organiser/Contact person		
Name, Institution, University		
Credits (ECTS)	**Workload**	
Possible range 1 to 5	1 ECTS = 25 to 30 h Workload, including _____ contact hours and _____ self instructed learning	
Language of instruction		
English (preferred) or local language		
Mode of provision		
☐ Physical attendance of students: 100% ☐ Physical attendance of students: partly required	☐ remote attendance possible ☐ online 100%	
Percentage of e-learning (0-100%)		
Short course description (for dissemination to students)		
Please enter a short course description for the course dissemination to students		

3.2. Course sheet - Organisational Information

This section contains all organizational information for the students. For the course format/teaching and learning methods please refer to the SEA-EU agreed list of teaching and learning methods in Annex 3

Course format/teaching and learning method (see SEA-EU list of teaching and learning methods)
Max. number of participants
Course enrolment
Please fill in a Link to a local course enrolment platform, that is usable for all students of the Alliance or the information, how students from all Universities of the Alliance can enroll.
Course fees
Enrolment requirements
Study level ☐ Bachelor (level 6) ☐ Master (level 7) ☐ PhD/Doctorate (level 8)   Entry level of language proficiency: Other requirements:
Course dates, period and time / Link to the University's website for the course
Please enter the specific dates, period and time for the course and, if possible, the link to the course information at your University's website.
Other remarks

3.3. Course sheet - Learning Conditions

In this section the course content is specified: the learning outcomes, the student activities within the course and the attendance policy. For the Assessment Methods please refer to the SEA-EU agreed list of assignments in Annex 4

Course content
Learning outcomes (knowledge, skills, attitudes)

Students are able to..*(based on e.g. Bloom´s taxonomy):*
Student activities
Attendance policy
Assessment Methods (see SEA-EU list of assignments)
Grading
☐ graded   ☐ non-graded (pass/fail)
Study materials/Course literature

3.4.   Course sheet - Linkage to SEA-EU micro-credential Programmes

In this section you specify which category/module of the SEA-EU Future Skills framework your offer belongs to and which competence(s) of the category/module are trained by your course offer.
Please refer to chapter 2.

Linked to micro-credential programme and category (choose only one category) **(see Future Skills Framework or Sustainability Studies Framework)**

☐ Future Skills   ☐ Sustainability Studies
   ☐ Higher order thinking competences   ☐ Sustainability as a concept
   ☐ Self competences   ☐ Sustainable economy
   ☐ Social and communication competences   ☐ Peace, justice and inclusion
   ☐ Transformative competences   ☐ Life on land and in water
   ☐ Digital and media competences   ☐ Climate change
                     ☐ Sustainable cities and local communities
                     ☐ Industry and Innovation for Sustainability

Linked Competence(s)/Issue(s) in your chosen category you will provide with your teaching
List competences/issues here or mark in table below

4. Organising the course application and registration at the home University

In the next step you/your University organise the application and registration of the students at your University (in future there might be a common solution for this process for SEA-EU courses, until then we offer our help for the organisation of the student application).

We are aiming to find a cross-university solution for the authentication of students within the SEA-EU Alliance. However, this will take some time. Until then, we ask you to find pragmatic solutions for the application and registration of students. Please bear in mind that external students may not be able to use your internal university systems as they may not have access to them.
If you need help or support with the application and registration process for Alliance students, please contact us by e-mail. Our contact: schmidtke@zfs.uni-kiel.de

As this is an exchange of students within the Alliance, we would like to suggest that the course offer is free of charge for students. Students from your university will take part in courses at other universities in the Alliance, and in return you will host students from the Alliance. In our view, this should balance out any additional costs incurred. However, if it is not possible for you to offer your course for free, please give information on the fees and the payment process.

Please enter the information concerning the application and registration process for the students from the SEA-EU Alliance in the course sheet.

5. The SEA-EU course certificate

To confirm the successful course participation of the students, please hand over the course certificate to the SEA-EU students or use your University processes for credit achievement if possible. Please use the standardized form that we will provide you with pre-filled, after you have filled in the course sheet. Students will submit this course certificate, after having received it from you, to their home university for ECTS credit transfer.

There will probably also be a SEA-EU-wide solution for issuing course certificates and awarding ECTS, but this is currently still in preparation.

You can see what the course certificate will look like in Annex 5

Annex 1: SEA-EU task 2.3 micro-credentials "Future Skills" and "Sustainability Studies" Frameworks

The SEA-EU micro-credential Framework on "Future Skills"

Meta-categories	Skills/Competences	Learning outcomes
Higher order thinking competences	**Adaptability competences** Adaptability competence encompasses the knowledge, skills and responsible attitude to approach unknown situations positively, to work on several tasks simultaneously and to deal constructively with change.	*Students* - define techniques and methods for proactive behavior in unknown situations - identify challenges in learning and working environments - describe improvisation techniques for dealing with change - implement adaptation strategies for dealing with unknown challenges - evaluate individual learning and working steps for dealing with unknown situations or challenges - integrate improvisation techniques into the adaptation process - evaluate their intrinsic motivation in adaptation situations - assess their own role in working with others in unfamiliar situations - develop priorities for adaptation in challenging or unfamiliar situations, taking into account their own needs and the needs of others
	Problem solving competences Problem-solving competence comprises the knowledge, skills, and responsible attitude required to effectively identify, analyze, and resolve complex issues and challenges within a given context. It involves the application of critical thinking, creativity, and ethical	*Students* - recognize complex problems from diverse domains, identifying key components and interrelationships. - synthesize information from various disciplines, fostering a holistic understanding of problems and solutions. - name problem-solving theories and models - evaluate information objectively, identify assumptions, and form well-reasoned conclusions. - generate innovative solutions to complex issues. - cultivate a resilient attitude towards problem-solving, demonstrating perseverance in the face of setbacks. - appreciate diverse perspectives, fostering collaboration and enhancing their ability to

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	considerations to navigate and overcome obstacles in a systematic and effective manner.	tackle multifaceted problems. develop a heightened awareness of ethical considerations in problem-solving, ensuring that their solutions contribute positively to society.
	Critical and Systems thinking competences The competence of critical thinking encompasses the knowledge, skills and responsible attitude for process-based thinking behavior that serves to systematically analyze and evaluate information, ideas and arguments and to reach factually sound conclusions.	*Students* - identify different arguments and claims for their critical analysis - recognize facts, concepts, theories and principles of the respective field of knowledge that are relevant to carry out an informed, critical analysis - name basic steps and techniques of critical thinking - combine different techniques of critical thinking to analyze experiences, complex information and theories critically and objectively - formulate questions to critically analyze arguments and conclusions - develop and evaluate rational arguments from existing perspectives - use facts, concepts, theories and principles of the respective field of knowledge to develop alternative solutions in the critical thinking process - find assessment standards for comparing different theses and arguments - recognize their own subjectivity - develop a value system that appreciates existing arguments, theses or decisions in the process of critical thinking - critically weigh different perspectives against each other - take a responsible stance on their own and other arguments
Self competences	**Active Learning competences** Active Learning competence encompasses the knowledge, skills and responsible attitude required to develop actively individual learning	*Students* - identify personal needs and areas of learning - describe different learning methods - recognise techniques and methods for planning, reviewing and adapting their own learning - assess their own level of development - create individual learning and development goals - organise and evaluate their own learning

	strategies and to shape self-organised one's own learning process in a solution-oriented manner.	process - identify their own preferred learning methods - develop a personalised learning strategy - consider solution-orientated changes and opportunities for learning - are convinced of their own ability to achieve goals - internalise the positive appreciation of learning as a life-enriching activity - take the initiative to extend and deepen their own learning
	Self-awareness competences Self-awareness competence comprises the knowledge, skills and responsible attitude to recognize and classify one's own patterns and strategies in behavior and to align behavior with these insights and values.	*Students* - identify techniques and methods of self-reflection - identify personality and basic psychological models for self-reflection - review techniques, methods and models of self-reflection by applying them in relation to their own personality - develop the ability to self-observe - analyse their own motives in self-reflection - develop skills for self-regulation - become aware of their own emotional state in the process of self-reflection - find assessment standards for their own values and behaviour through self-reflection - weigh different perspectives against each other and relate them to their own perception in self-reflection - reflect on personal stereotypes, behavioural patterns and prejudices - develop an awareness of and self-confidence in their own abilities in the process of self-reflection
	Complexity and ambiguity competences Complexity and ambiguity competence comprises the knowledge, skills and responsible attitude to recognize, classify and accept	*Students* - identify concepts of complexity and ambiguity - identify techniques and strategies for coping with complexity and ambiguity - identify complex challenges and conflicting goals - analyse contradictory information and role expectations - analyse contradictions - examine the handling of complex systems consisting of many interconnected parts that

	ambiguity and heterogeneity in situations and roles	often interact in a non-linear way - evaluate unconventional and innovative solutions - manage systems that are difficult to predict due to their diversity, dynamics and emergence - allow for uncertainties in complex systems - honour different perspectives in ambiguity - accept ambiguity in their world view - tolerate emergent phenomena and chaos
Social and communication competences	**Collaboration and networking competences** Collaboration and networking competences comprises the knowledge, skills and responsible attitude to face challenges in a group in a collaborative and participative way in order to solve a problem or achieve a goal and to establish, maintain and use effective connections and networks.	*Students* - name tools for collaboration - name collaboration theories and co-creation methods - define common working methods and forms of collaboration - describe effective communication and dialogue strategies that facilitate the development and maintenance of relationships in a network - name strategies and techniques for finding, analysing and sharing relevant information in order to identify resources and expertise within the network - characterise strategies and techniques to successfully build relationships in networks - create a positive working atmosphere in collaboration - plan a common setting for cooperative work - organise the roles and tasks of the cooperation partners - jointly combine goals and solutions for successful collaboration - use tools, techniques and strategies to build and maintain relationships in a network - develop procedures to bring people and ideas together in an interdisciplinary way - connect people and in this way contribute to the success of the network - honour the individuality of the cooperation partners - develop shared values for their collaboration - categorise the goals and values of the cooperation partners - align their behaviour with the goals of the collaboration - participate in networks

		- practise respect and appreciation when dealing with other people in the network - establish relationships between people to build and maintain the network
	Communication competences Communication competence encompasses the knowledge, skills and responsible attitude to communicate clearly, comprehensibly and congruently and thus to contribute to building interpersonal relationships, avoiding misunderstandings and improving the quality of communication.	*Students* - recognise the structure of conversations, presentations and written messages - name methods and models of comprehensible communication - recognise paralinguistic features of communication - recognise the significance of gestures, facial expressions, posture and tone of voice - compare how non-verbal signals are interpreted in different cultures - use the appropriate words to convey information, thoughts and ideas clearly and precisely - select language and body language appropriate to the target group and situation - develop self-control to consciously manage their own non-verbal communication - examine the possible effects of their own non-verbal communication on others - base their communication behaviour on the principles of honesty and authenticity - practise clarity in verbal and non-verbal communication, share information openly and thus avoid misunderstandings
	Leadership competences Leadership competence encompasses the knowledge, skills and responsible attitude to successfully lead, motivate and influence a group of people or an organization to achieve common goals.	*Students* - present the principles of good leadership - recognise classic and modern leadership styles - define feedback rules - explain socio-psychological experiments and phenomena from the context of leadership - name definitions of leadership from various disciplines - develop a confident appearance in leadership situations - apply communication tools for leadership situations - design smart goals for themselves and as a leader for others - assess tools for self-leadership and for leading others

		- organise leadership situations with people and goals in mind - develop clarity and a self-reflective attitude with regard to their own leadership role - develop a value-oriented attitude in leadership situations that is characterised by empathy and appreciation - align their leadership behaviour with principles of integrity and ethics in dealing with power
Transformative competences	**Entrepreneurship competences** Entrepreneurship competences encompasses the knowledge, skills and responsible attitude to establish and successfully manage a company by developing innovative solutions, recognizing opportunities and taking risks. This includes market and customer understanding, financial management, marketing, personnel management and adaptability.	*Students* - identify techniques for developing their own ideas for successful entrepreneurial activity or business start-ups - recognise methods for carrying out market analyses - explain the legal requirements and conditions for setting up and running a business - describe methods for estimating and evaluating risks - describe methods of business model development - develop their own ideas for new business models and entrepreneurial decisions - evaluate innovation potentials for start-up projects and entrepreneurial decisions - use methods, tools and techniques for successful business start-ups and management - convince others of their ideas or proposed solutions for entrepreneurial challenges, cooperation or investment - flexibly assess changing challenges and requirements for their entrepreneurial activities - orientate their behaviour towards independence, initiative, openness to innovation and constructive cooperation in entrepreneurial processes - find benchmarks for assessing the sustainability of start-up projects and entrepreneurial decisions - evaluate risks and affirm change in the entrepreneurial decision-making process - practise a culture of networking and communication to promote start-up projects and entrepreneurial success - develop an attitude of responsibility towards

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		social, operational and human challenges in start-up projects and entrepreneurial decisions
	Citizenship competences Citizenship competence comprises the knowledge, skills, and responsible attitude required to navigate, engage, and contribute effectively in diverse societal contexts. It involves a deep understanding of global issues, legal and political systems, and cultural perspectives, fostering the ability to critically analyze information and communicate effectively.	*Students* - name the major components of global issues, including legal and political systems - explain cultural perspectives and their impact on social interactions - Students explain relationships between different cultural values and behaviors within different communities - create well-founded solutions for complex social challenges in different contexts - analyze and evaluate the interplay of legal frameworks, cultural dynamics and global issues - develop proposals to advocate for positive social change in a way that respects diverse perspectives and promotes inclusive dialog - articulate personal values associated with citizenship, expressing an understanding of the significance of responsible engagement in diverse societal contexts and attaching subjective worth to participation - actively participate in discussions on citizenship competences, expressing their reactions, opinions, and questions related to societal issues - integrate ethical values into their decision-making processes, illustrating how these values contribute to responsible citizenship in diverse societal contexts - demonstrate a commitment to upholding ethical standards and values associated with citizenship competences, both in academic and real-world scenarios. - critically examine their own values in the context of global issues, legal systems, and cultural perspectives
	Global awareness competences Global awareness competences comprise the knowledge, skills, and responsible attitude required to comprehend and	*Students* - analyze global issues by critically examining the interconnected relationships between social, economic, and environmental factors, demonstrating the ability to discern patterns and evaluate the implications of these interconnections on a global scale - assess the economic dimensions of global challenges, utilizing economic theories and

	engage with the complex interconnections of our interconnected world. This includes a comprehensive understanding of global issues spanning social, economic, and environmental realms, as well as the ability to analyze and interpret diverse cultural perspectives.	models to analyze the distribution of resources, trade patterns, and the socio-economic disparities that influence global development. - apply cross-cultural communication skills to engage with diverse stakeholders, fostering effective collaboration and negotiation in the pursuit of global solutions to social, economic, and environmental challenges. - create innovative strategies for addressing global challenges, integrating insights from social, economic, and environmental perspectives to propose comprehensive and adaptable solutions. - design and implement projects that contribute positively to global well-being, applying their knowledge and skills to address real-world challenges and promoting responsible and sustainable practices on a global scale. - participate in activities that require them to analyze and interpret information from diverse cultural perspectives. - articulate personal values related to global citizenship, expressing empathy and concern for the well-being of people worldwide. - actively contribute to the development of global ethical frameworks, integrating values and principles into their decision-making processes.
Digital and media competences	**Data Literacy competences** Data literacy encompasses the knowledge, skills and responsible attitude to effectively collect, understand, analyze and use data, big data and AI.	*Students* - identify basic principles of mathematics and statistics when dealing with data - list databases, query languages, programming languages and data visualisation tools for analysing data - explain ethical and legal aspects of data processing and describe the effects in terms of data security, data protection regulations, access rights, etc. (including the use of Artificial Intelligence (AI) - identify various procedures for handling data from creation to deletion (data life cycle) - collect, classify and evaluate data - create data products including products based on large language models (LLM) - explain AI

		- use and reflect on the use of AI-products - analyse and check data to uncover hidden biases and errors - implement appropriate guidelines for secure and ethical data processing, including the processing of big data for AI-Models - follow a responsible approach to data, big data and AI - practise openness, curiosity and a willingness to learn when dealing with data and digital innovations (e.g. Artificial Intelligence, machine learning, etc.) - organise their work and interaction with data according to ethical principles: Avoidance of discrimination and prejudice, as well as compliance with legal rules and regulations; "data fairness" as a basic attitude
	Media literacy competences Media literacy competences encompasses the knowledge, skills and responsible attitude to understand, compare and critically evaluate, select and create media in a responsible way so that they are used effectively and in different contexts.	*Students* - name different types, formats and channels of media for different target groups - characterise the criteria for high-quality, trustworthy media content - describe the effects of different media - describe methodological approaches to media analysis - compare media and data according to specific criteria, e.g. seriousness, credibility/trustworthiness, risk of manipulation - name criteria for a technically proficient use of different media - explain the advantages and disadvantages, opportunities and risks of different types of media - describe methods for recognising manipulated content, advertising and disinformation - apply various media analysis methods - assess media systematically by collecting and analysing evidence that leads to well-founded conclusions - assess interests and conditions of media production and distribution - examine various media critically and competently in order to use them to form opinions and make decisions - use media interactively, purposefully and in a

		target group-orientated way to communicate their own thoughts and knowledge - critically assess their own media usage behaviour and adapt it if necessary - configure the media used on the basis of security and privacy settings - are committed to an analytical-critical, evidence-based attitude towards media - weigh up the importance of media in shaping perceptions of reality, (political) opinion-forming and social behaviour - recognise the importance of flexibility, adaptability, willingness to learn and problem-solving skills when dealing with rapidly changing media - follow rules of behaviour and appropriate communication when using media - develop a critical, self-reflective and responsible attitude with regard to their own media usage behaviour - feel committed to a data protection-compliant and rights-preserving approach to media - have the principle of taking a stand against disinformation, propaganda and hate speech
	Digital collaboration competences Digital collaboration encompasses the knowledge, skills and responsible attitude to exchange information in the digital space, to communicate effectively and to collaborate with the help of digital tools, platforms, and communication technologies, along with the ability to leverage them for seamless collaboration.	Students - name tools for digital interaction and virtual collaboration - characterise the potentials and challenges of human-machine interaction - identify the opportunities and limitations of digital communication and interaction - identify the opportunities and challenges of digital interaction - apply different tools for effective and appropriate digital interaction - configure connections to other interaction partners in the digital space with the help of digital tools - create a constructive working atmosphere for virtual collaboration - design solutions for conflicts in the digital space - use indicators to analyse human-human and human-machine interaction in the digital space - evaluate the special features of digital communication

		- develop a change-conscious and responsible attitude towards (new) tools for digital interaction - accept ambiguity in digital communication and practise patience in contradictory situations - practise the principle of transparency in virtual collaboration

Based on:

European Commission, Directorate-General for Employment, Social Affairs and Inclusion, ESCO handbook – European skills, competences, qualifications and occupations, Publications Office (2017), https://data.europa.eu/doi/10.2767/934956

Athanasia Kotsiou, Dina Daniela Fajardo-Tovar, Tom Cowhitt, Louis Major & Rupert Wegerif (2022). A scoping review of Future Skills frameworks, Irish Educational Studies, 41:1, 171-186, DOI: 10.1080/03323315.2021.2022522

Key Skills Center, Kiel University (2023), Our definition of key competences, https://www.zfs.uni-kiel.de/en/key-competences/our-definition-of-key-competences

The SEA-EU micro-credential Framework on "Sustainability Studies"

Combined Draft of a Definition for Sustainability Studies:

Sustainability Studies, anchored in the multidisciplinary field of Sustainability Science, equip students with the ability to address the complex environmental, social, governance and economic challenges individually and holistically, promoting a comprehensive and critical understanding of sustainability and sustainable development. Since natural capital cannot be replaced, Sustainability Studies aim to foster the knowledge, skills, values, and behaviours needed to support fair and well-being for both current and future generations, all within the limits of our planet.

Meta-categories	Issues/Topics	Learning outcomes
Sustainability and societal transformation – conceptual approaches	**Key concepts and principles of sustainability** provide an overview of foundational ideas shaping the sustainability discourse. Key principles include, for example, wellbeing and quality of life, intergenerational equity, justice and equity, living within ecosystem limits, social and cultural dimensions, economic growth and environmental balance. At the same time, sustainability is increasingly framed not merely as a goal, but as a contested, evolving process of societal transformation. This includes confronting global inequalities, shifting dominant patterns of consumption and production, rethinking growth paradigms, and recognizing the political	*Students* **Cognitive learning objectives** - Critically evaluate how different sustainability principles are related in their economical, environmental and social aspects and how they shape policies and practice across global contexts. - Understand sustainability not as a fixed target state but as an evolving process of societal transformation with current dynamics being consumption patterns, population growth, destruction of ecosystems, climate change, social justice. - Explain the difference between strong and weak sustainability, which reflects differing assumptions about the substitutability of natural capital and the role of economic growth, using real-world examples. **Socio-emotional learning objectives** - Develop clarity about socio-cultural context, privileges and bias as well as sensitivity and awareness to understand perspectives that differ from one's own. - Recognize and reflect on emotional responses to sustainability challenges, such as eco-anxiety, climate grief or ambiguity, and develop strategies to foster resilience and empathy, personally and in terms of systemic questions. - Develop a sense of belonging to a common humanity and of solidarity with future generations.

	nature of sustainability decisions.	**Behavioural learning objectives** - Implement sustainable practices in daily life and professional settings, such as reducing waste, conserving energy, and supporting eco-friendly products and policies and measure their own behavioural impact using defined sustainability indicators. - Advocate for and participate in initiatives that promote sustainability, influencing communities, organizations, and policymakers towards responsible environmental and social actions. - Pay attention to other people´s reality/perspective, are self-reflective and take into account their own perspective.
	The evolution of the concept of sustainable development introduces the historical development of sustainable development, tracing its shift from early environmental debates to a broader framework that integrates social, economic, environmental, and governance dimensions. It emphasizes that while sustainability has become a hegemonic global guiding concept, it is also subject to critique for its ambiguity, depoliticization, and potential to co-opt transformative agendas. The Sustainable Development Goals (SDGs) are addressed as a key example of a global agenda that provides orientation and shared language, while at the same time raising	*Students* **Cognitive learning objectives** - Understand the historical evolution of sustainable development, from early environmental concerns to its current global framework, integrating social, economic, environmental, and governance dimensions and taking into account both the enabling potential and the limitations of sustainability as a policy and normative concept. - Critically assess the effectiveness of an SDG in its national or local context, as well as its governance mechanisms, gaps in accountability and technocratic tendencies. - Understand concepts for measuring progress on sustainable development. **Socio-emotional learning objectives** - Develop a sense of responsibility and ethical commitment to sustainability, justice, and resilience, promoting equitable well-being within planetary boundaries. - Develop intercultural empathy and awareness by recognizing how different cultural, historical and regional perspectives shape understandings of sustainability and justice. - Commit to lifelong learning and civic engagement by building a values-based identity aligned with sustainable development principles. **Behavioural learning objectives** - Promote global partnerships for sustainable

questions about power structures, root causes of unsustainability, and genuine potential for transformation. Sustainability education is thus a means to foster the knowledge, skills and values necessary to promote equitable well-being within planetary boundaries for all present and future life, guided by the principles of justice, resilience, and a commitment to systematic change.	development and demand governments' accountability for the SDGs. - Create a vision for a sustainable global society with a sense of belonging to a common humanity and of solidarity with future generations. - Integrate historical and critical perspectives into one's own academic or professional work on sustainability.
Introduction to corporate sustainability explores how organizations communicate their sustainability initiatives, analyse their performance, and meet regulatory requirements, particularly within the context of the European Union. A critical lens, however, interrogates whether corporate sustainability genuinely supports societal transformation or functions as a means of legitimation.	*Students* **Cognitive learning objectives** - Understand the key concepts of Corporate Sustainability, ESG ratings (Environmental, Social, Governance), and CSR (Corporate Social Responsibility), and differentiate their strategic roles in business contexts. - Analyze EU regulatory frameworks for sustainability reporting (e.g., CSRD, ESRS, EU Taxonomy) and explain how they shape corporate transparency and compliance. - Evaluate tools and standards used in assessing sustainability performance, such as the GRI Standards or SDG alignment matrices regarding effects of misalignment between corporate strategies and sustainability transitions such as greenwashing and short-term profit motivations. **Socio-emotional learning objectives** - Develop awareness of the ethical implications of sustainability reporting, including greenwashing risks and stakeholder trust. - Foster empathy and inclusiveness by considering the perspectives of diverse stakeholders affected by corporate practices (e.g. employees, communities, ecosystems). - Cultivate a personal sense of responsibility as future professionals to advocate for meaningful and honest sustainability engagement in organizational settings. **Behavioural learning objectives** - Apply sustainability reporting tools (e.g., GRI

		framework) to assess and compare the sustainability disclosures of real-world companies. - Collaborate in teams to draft a sustainability communication strategy tailored to a specific stakeholder group (e.g., investors, local communities, regulators). - Engage in dialogue or debate on controversial corporate sustainability issues (e.g., carbon offsetting, social license to operate) and propose constructive actions.
	Implementing sustainability refers to the practical integration of sustainability principles into organizational practices and decision-making. Implementation is embedded in conflicting interests, institutional constraints and cultural norms. Transformative change thus requires more than individual behavior change or policy adaptation – it entails rethinking dominant systems and structures, embracing uncertainty, and building capacity for collective action.	*Students* **Cognitive learning objectives** - Analyse decision-making processes that support sustainability goals using digital tools and gamification. - Understand the important role of culture in achieving sustainability. - Understand foundational methods for individuals, communities, and organizations to contribute to sustainability goals. **Socio-emotional learning objectives** - Reflect on their individual impact on sustainability. - Build intercultural communication and conflict-resolution skills for stakeholder collaboration in sustainability transitions. - Reflect on underlying conflicting interests, institutional constraints and cultural norms when implementing sustainability. **Behavioural learning objectives** - Influence organizations to become part of (global) partnerships for Sustainable development and demand governments' accountability for the SDGs. - Use digital tools and open data platforms to monitor, report, and advocate for sustainable practices at organizational and civic levels. - Develop the capacity to navigate complexity and contradiction within the topic of sustainability and embrace the uncertainty.
Sustainable economy	**Responsible and sustainable production and consumption** Sustainable economy refers to the expansion of an economy in a way that balances the need for increased wealth and	*Students* **Cognitive learning objectives** - Understand how individual lifestyle choices influence social, economic and environmental development; understand production and consumption patterns, value chains, and their interconnections, including supply and demand, environmental impacts (toxics, CO2 emissions, waste), and socio-economic factors

	prosperity with the consideration of social equity, environmental sustainability, and long-term stability.	(health, working conditions, poverty) in order to evaluate sustainable transition strategies and their trade-offs. - Gain insight into strategies, frameworks, actors and their roles, supporting sustainable production and consumption (e.g. circular economy, sustainable procurement, Degrowth theories, doughnut economics, media and advertising, enterprises, municipalities, legislation, consumers). - Understand dilemmas/trade-offs related to and system changes necessary for achieving sustainable consumption and production. Analyze systemic challenges and trade-offs inherent in shifting toward sustainable consumption and production models. **Socio-emotional learning objectives** - Communicate the need for sustainable practices in production and consumption and encourage others to adopt them. - Reflect critically on personal consumption patterns, distinguishing between needs and wants in light of environmental, cultural, and social considerations. - Internalize responsibility for one's dual role as consumer and producer in shaping sustainable futures. **Behavioural learning objectives** - Plan, implement, and evaluate sustainable consumption and production activities using existing sustainability criteria. - Critically assess and influence decision-making in both public acquisitions and market dynamics as an active stakeholder. - Challenge unsustainable cultural and societal norms in consumption and production, promoting alternative, equity-based practices.
	Corporate Social Responsibility and decent work Implementing sustainable methods in an organization by creating more ethical, sustainable, and equitable business	Students **Cognitive learning objectives** - understand the concepts of sustained, inclusive and sustainable economic growth, full and productive employment, and decent work, including the advancement of gender parity and equality, unemployment in different world regions or nations, which social groups are especially affected by unemployment and the distribution of formal

	environments through corporate social responsibility, ethical employment, sustainable Human Resources Management and fair Labor Law.	employment rates per sector.

environments through corporate social responsibility, ethical employment, sustainable Human Resources Management and fair Labor Law.

- employment rates per sector.
- understand the relation between employment and economic growth, and know about other moderating factors like a growing labour force or new technologies that substitute jobs. Explore the dynamics between technological change, labor markets, and economic growth, including the impact of automation, and alternative economic models and indicators. Understand how innovation, entrepreneurship and new job creation can contribute to decent work and a sustainability-driven economy and to the decoupling of economic growth from the impacts of natural hazards and environmental degradation.
- understand how low and decreasing wages for the labour force and very high wages and profits of managers and owners or shareholders are leading to inequalities, poverty, civil unrest, etc. Critically assess wage disparities and profit concentration as drivers of inequality, social unrest, and poverty.

Socio-emotional learning objectives
- Discuss economic models and future visions of economy and society critically and communicate them in public spheres.
- Cooperate with others to advocate for fair wages, labor rights, and ethical workplace practices, clarifying individual rights, values, and expectations related to employment and professional life.
- Recognize how personal consumption influences global labor conditions and supply chains
- Develop a vision and plans for economic life based on an analysis of competencies and contexts.

Behavioural learning objectives
- Engage with new visions and models of a sustainable, inclusive economy and decent work, facilitating improvements related to unfair wages, unequal pay for equal work and bad working conditions.
- Develop and evaluate ideas for sustainability-driven innovation and entrepreneurship; plan and implement entrepreneurial projects.
- Develop criteria and make responsible consumption choices as a means to support fair working conditions and efforts to decouple production from the impact of natural hazards and environmental

		degradation.
	Green, Circular and Blue Economy are important areas of Sustainable Economy. *Sustainable Green Economy* promotes economic growth while protecting and enhancing natural ecosystems, ensuring that the planet's resources are used efficiently and responsibly within the intrinsic limitations of natural systems. *Sustainable Circular Economy* aims to decouple the relationship between growth and material use through e.g. reducing, reusing, and recycling strategies. *Sustainable Blue Economy* refers to the economic activities related to the ocean, seas, and coastal areas that are managed in ways that preserve and regenerate marine ecosystems while contributing to long-term economic growth and social well-being.	*Students* **Cognitive learning objectives** - Understand the principles and key differences between green, circular, and blue economies, focusing on their role in sustainable development. - Explore the importance of balancing economic growth with the preservation of natural and marine ecosystems. - Evaluate the benefits of recycling, reuse, and reduction practices. **Socio-emotional learning objectives** - Cultivate empathy for communities that rely on natural and marine resources, recognizing the need for their responsible management. - Promote a collaborative mindset to support sustainable economic practices at both local and global levels. **Behavioural learning objectives** - Adopt sustainable practices that align with green, circular, and blue economic principles, such as supporting eco-friendly businesses and initiatives. - Participate in efforts to preserve natural and marine ecosystems, contributing to long-term environmental and social well-being.
Peace, justice and inclusion	**Resilience, Preparedness and Emergency Management** are policies that contribute to the sustainability, stability, and growth of economies, businesses, and communities, especially in the face of	*Students* **Cognitive learning objectives** - Understand the interconnections between resilience policies and social equity, particularly in vulnerable or marginalized communities. - Identify key elements of emergency management cycles (preparedness, response, recovery, mitigation) and link them with climate adaptation and sustainability planning. - Compare and evaluate the sustainability of

	challenges like economic shifts, environmental risks, or technological changes. Emergency Management aims at enhancing a society's ability to effectively anticipate, respond to, and recover from disasters, crises, or emergencies, while minimizing their impact on people, infrastructure, and the environment.	settlements' systems in meeting societal needs in times of crisis. **Socio-emotional learning objectives** - Develop a sense of responsibility in crisis situations, fostering cooperation and ethical decision-making to support community resilience and recovery. - Develop intercultural sensitivity and emotional intelligence when working with communities affected by crises, respecting diverse needs and experiences. - Build confidence in collective action by reflecting on past resilience failures and successes in real-world disaster contexts. **Behavioural learning objectives** - Be able to create appropriate conditions to foster an inclusive, safe, resilient and sustainable community. - Demonstrate resourcefulness and adaptability in coping with unexpected environmental changes. - Design and participate in simulation exercises or emergency drills that strengthen local response capacity and collaborative problem-solving.
	Building equitable, inclusive societies that provide fair opportunities and resources for all, especially marginalized groups. Diverse societies offer enriching perspectives through the presence of a wide range of differences. Vulnerable populations benefit from social work, high-quality health and education systems that ensure access and equality.	*Students* **Cognitive learning objectives** - Understand the importance of individuals and groups in upholding justice, inclusion and peace and supporting strong institutions in their country and globally. - Understand the importance of the international human rights framework. - Know about inequality in access to and attainment of education, particularly between girls and boys and in rural areas, and about reasons for a lack of equitable access to quality education and lifelong learning opportunities. **Socio-emotional learning objectives** - Build relationships with individuals and networks that promote justice, peace, and inclusive institutions. - Reflect on the roles across diverse groups and analyze systemic barriers to justice**.** - Recognize the importance of one's own skills for improving their life, in particular for employment

		and entrepreneurship. **Behavioural learning objectives** - Critically assess issues of peace, justice, inclusion and strong institutions in their region, nationally and globally. - Become an agent of change in local decision-making, speaking up against injustice. - Support the development of policies promoting free, accessible, equitable and quality education for all.
	Democracy and citizenship promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels (from local to global governance).	*Students* **Cognitive learning objectives** - Understand concepts of justice, inclusion and peace and their relationship to law. - Know the concepts of global governance and global citizenship. - Debate and reflect on local and global issues of peace, justice, inclusion and strong institutions **Socio-emotional learning objectives** - Reflect on personal values, biases and privileges, and understand how these shape participation in democratic and inclusive societies. - Develop a sense of shared responsibility, solidarity, and belonging within diverse communities across local and global scales. - Cultivate empathy and respect for pluralism through dialogue with individuals who hold opposing perspectives. **Behavioural learning objectives** - Critically assess issues of peace, justice, inclusion and strong institutions locally, nationally and globally. - Support the implementation of the SDGs and act as an active, critical and global citizen. - Become an agent of change in local decision-making, speaking up against injustice.
	International and Environmental Law refers to a body of legal frameworks and treaties that regulate the relations between nations and govern global issues like migration, environmental	*Students* **Cognitive learning objectives** - Compare systems of justice between different countries. - Understand the importance of individuals and groups in upholding justice, inclusion and peace and supporting strong institutions in their country and globally. - Understand the importance of the international

	protection, and human rights. These laws aim to promote peaceful cooperation between countries, ensure justice for all people, and foster inclusive societies by protecting the rights of vulnerable populations, including migrants and displaced persons.	human rights framework. **Socio-emotional learning objectives** - Build relationships with individuals and networks that promote justice, peace, and inclusive institutions. - Debate on the role of local and global issues of peace, justice, inclusion and strong institutions. - Reflect on solidarity for those suffering from injustice in their own country as well as in other countries. **Behavioural learning objectives** - Critically assess issues of peace, justice, inclusion and strong institutions in their region, nationally and globally. - Support the development of policies promoting peace, justice, inclusion and strong institutions. - Collaborate with groups that are currently experiencing injustice and/or conflicts.
Life on land and in water	**Sustainable food production** on land and in water refers to the practice of producing food in ways that maintain ecological balance, preserve biodiversity, and minimize negative environmental impacts while meeting the needs of current and future generations. This concept integrates responsible practices in production and consumption in agriculture and aquaculture, as well as the sustainable management of fisheries, to ensure food security while respecting the health of ecosystems.	*Students* **Cognitive learning objectives** - Acknowledge cultural, economic, and ecological connections of people with marine and terrestrial ecosystems, recognize key threats (pollution, overfishing, climate change), and evaluate their implications for food security and employment. - Recognize the negative effects of intensive agriculture and familiarize with mitigation solutions provided by regenerative agriculture. - Understand that effective conservation extends beyond reserves to improve laws, restore habitats and soils, connect corridors, promote sustainable land use, and rebuild our relationship with wildlife. **Socio-emotional learning objectives** - Reflect critically on personal dietary habits and evaluate whether they make sustainable use of land and marine resources. - Challenge the human/nature dualism by recognizing humans as an integral part of ecosystems. - Express concern for marine ecosystems and coastal communities whose livelihoods depend on natural resources. **Behavioural learning objectives**

		- Engage with policymakers to address overfishing and unsustainable practices. - Support science-based efforts to establish marine protected areas, sustainable fishing areas and soil restoration initiatives. - Communicate climate solutions and sustainability practices at school or community events.
	Public health, poverty and well-being. A sustainable society seeks to ensure that all individuals, particularly those from disadvantaged backgrounds, have access to the resources and opportunities needed to live healthy, fulfilling lives while safeguarding the environment for future generations.	*Students* **Cognitive learning objectives** - Understand the concepts of extreme and relative poverty and critically reflect on the cultural and normative assumptions behind them. - Identify the causes and impacts of poverty, including unequal distribution of resources. - Recognize the social and economic dimensions of health and well-being, and know strategies to promote them. **Socio-emotional learning objectives** - Show sensitivity, empathy, and solidarity with people living in poverty or vulnerable situations. - Reflect critically on their own role in challenging global inequality structures. - Encourage peers to support actions and decisions that promote health and well-being for all. **Behavioural learning objectives** - Advocate for and support actions promoting social justice, health, and poverty. - Integrate health-promoting behaviours into daily life. - Make responsible consumption choices that consider poverty reduction, social justice, and anti-corruption.
	Biodiversity in Ecosystems refers to the variety of life forms and their genetic diversity, crucial for ecosystem health and resilience. Protected and coastal areas play a key role in conserving species and habitats, while conservation efforts help prevent ecosystem degradation.	*Students* **Cognitive learning objectives** - Understand the concept of biodiversity and its levels: genetic, species, and ecosystem diversity. - Recognize the role of biodiversity in maintaining ecosystem functions and human health, locally and globally. - Identify major threats to biodiversity such as habitat loss, deforestation, fragmentation, overexploitation, invasive species, and climate change. **Socio-emotional learning objectives** - Oppose destructive practices that cause biodiversity loss.

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		- Value biodiversity for both its intrinsic worth and the ecosystem services it provides to human well-being. - Develop a sense of connection and empathy with local ecosystems and nature. **Behavioural learning objectives** - Collaborate with local groups engaged in biodiversity conservation. - Engage with policy-makers to strengthen biodiversity legislation and integrate it into legislation. - Take practical actions to protect local ecosystems and promote biodiversity in everyday life (e.g. native planting, habitat restoration).
	Hydrosphere, Oceans and Water Management play a crucial role in sustaining life on land and in water through the continuous movement of water in the water cycle. Marine sciences help us understand diverse marine ecology which is essential for regulating climate and biodiversity. International law governs the shared responsibility of nations to protect marine environments, promote sustainable use, and preserve water resources for future generations.	*Students* **Cognitive learning objectives** - Understand the role of the hydrosphere within the Earth system. - Explain the interconnections between hydrosphere components and ecosystems. - Identify major human impacts on the hydrosphere including pollution, eutrophication, river damming, wetland drainage, and climate change. **Socio-emotional learning objectives** - Recognize water as a fundamental human right and a shared global goal. - Reflect on the ethical importance of sustainable water management for people and ecosystems. - Debate the critical role of law in governing water resources and ensuring environmental sustainability. **Behavioural learning objectives** - Communicate the importance of water resources to local communities and stakeholders. - Participate in advocacy for water management policies based on environmental justice and scientific evidence. - Support policy-makers and local initiatives in implementing sustainable water management practices.
Climate change	**Consequences of climate change on the ocean** Climate change significantly impacts the ocean, leading to rising	*Students* **Cognitive learning objectives** - Understand the physical, chemical, and biological mechanisms through which climate change impacts the ocean, including ocean warming, acidification,

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	sea levels due to melting ice caps and thermal expansion and pollution, which threaten coastal communities and ecosystems. Oceanography helps us understand these changes by studying ocean currents, temperature shifts, and ecosystem impacts.	and sea level rise. - Recognize how oceanographic processes, such as currents, upwelling, and heat transport, mediate and amplify the global effects of climate change. - Evaluate mitigation and adaptation strategies (e.g., marine protected areas, blue carbon ecosystems, sustainable fisheries, and coastal resilience planning) in relation to international frameworks such as the Paris Agreement and the UN Sustainable Development Goals (SDG 13, SDG 14). **Socio-emotional learning objectives** - Reflect on the human impact to climate-induced changes in marine systems. - Develop empathy and ethical awareness regarding the disproportionate impacts of ocean-related climate change on vulnerable coastal and island populations. - Promote local initiatives to increase the awareness on the consequences of climate change on the ocean. **Behavioural learning objectives** - Participate in local conservation, education, or mitigation actions that reduce the effects of climate change on the marine environment - Demonstrate the ability to translate scientific understanding into practical solutions for sustainable ocean management and climate resilience. - Apply oceanographic and sustainability knowledge to propose evidence-based actions aimed at reducing or mitigating climate impacts on marine and coastal systems.
	Green House Effect In the context of climate [IT2] action, addressing the enhanced greenhouse effect involves reducing greenhouse gas emissions to mitigate global warming and protect the biosphere.	*Students* **Cognitive learning objectives** - Understand the physical principles of the greenhouse effect, identifying the major greenhouse gases (CO_2, CH_4, N_2O, water vapor) and their roles in regulating the dynamics of the atmosphere, and the importance of climate models. - Distinguish between the natural and enhanced greenhouse effects and describe their respective implications for global climate stability and

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	Meteorology helps understand atmospheric conditions, weather patterns, and climate models.	biosphere. - Evaluate mitigation strategies and international policy frameworks (e.g., the Paris Agreement, Kyoto Protocol, and IPCC reports) aimed at reducing greenhouse gas emissions. **Socio-emotional learning objectives** - Develop a sense of responsibility and ethical awareness regarding the human role in altering the Earth's climate system. - Encourage climate-conscious behavior and emissions reduction within their communities explaining the greenhouse effect and related impacts in public contexts. - Engage in respectful dialogue on climate responsibility, integrating diverse scientific, cultural, and social perspectives. **Behavioural learning objectives** - Monitor and reduce personal and organizational greenhouse gas emissions through informed choices (e.g., energy efficiency, sustainable transport, reduced consumption). - Support policy-makers to improve legislation for reducing greenhouse gases emissions (such as: to promote low-carbon technologies and /or renewable energy). - Participate in climate-friendly projects and lifestyle changes that mitigate the greenhouse effect.
	Social, cultural and economic consequences of climate change refer to topics such as forced migration, destruction of culturally significant sites and traditional livelihoods and economic loss due to environmental disasters, for example drought and flooding. Sustainability ethics stress the responsibility to protect future generations from these consequences; climate policy guides efforts to mitigate and	*Students* **Cognitive learning objectives** - Know about the main ecological, social, cultural and economic consequences of climate change locally, nationally and globally and understand how these can themselves become catalysing, reinforcing factors for climate change. - Know about prevention, mitigation and adaptation strategies at different levels (global to individual) and for different contexts and their connections with disaster response and disaster risk reduction. - Understand the role of international frameworks (e.g., UNFCCC, Paris Agreement, Sendai Framework for Disaster Risk Reduction) in addressing the multi-dimensional consequences of climate change. **Socio-emotional learning objectives**

	adapt to social, cultural and economic impacts, supporting resilience and low-carbon development. Mitigation and adaptation strategies for climate resilience are crucial to address the long-term impacts of climate change. Climate policies integrate these two dimensions to ensure more resilient and sustainable societies.	- Collaborate with others and to develop commonly agreed-upon strategies to deal with climate change. - Understand their personal impact on the world's climate, from a local to a global perspective. - Reflect on ethical responsibilities toward future generations and the need for intergenerational and global solidarity in climate action. **Behavioural learning objectives** - Evaluate whether their private and job activities are climate friendly and where not to revise them. - Act in favour of people threatened by climate change supporting climate-friendly economic activities. - Anticipate, estimate and assess the impact of prsonal, local and national decisions or activities on other people and world regions promoting low-carbon lifestyles, sustainable consumption, and responsible investment practices to contribute to long-term climate resilience.
Sustainable cities and local communities	**Sustainable City Planning** focuses on creating environmentally responsible and equitable urban spaces, incorporating sustainable construction and green lungs, such as parks and green areas, to improve air quality and overall well-being. Clean water and sanitation ensure access to safe water and waste management, promoting public health and environmental sustainability.	*Students* **Cognitive learning objectives** - Identify how human needs are addressed in different settlements and explain principles of sustainable planning. - Propose inclusive community ideas and reflect on how daily habits affect urban sustainability. **Socio-emotional learning objectives** - Recognise the importance of equity, accessibility, and diverse voices in city planning. - Commit to community well-being by supporting long-term environmental responsibility. **Behavioural learning objectives** - Design and evaluate community sustainability projects (e.g., green roofs, public transportation, park development). - Participate actively in local decision-making processes.
	People, Resources and Environment provides insight into the challenges and consequences associated with global environmental and climate problems,	*Students* **Cognitive learning objectives** - Classify ecosystem services and analyse links between demographics, resource use, and environmental pressures. - Assess inequalities in access to resources and understand how problem framing shapes solutions. **Socio-emotional learning objectives**

	resource shortages, distributional issues and demographics. This includes, for example population development, prosperity and access to education.	- Take responsibility for lifestyle impacts on the environment and society. - Relate personal needs to the broader requirements of ecosystems locally and globally. **Behavioural learning objectives** - Collaborate in creating inclusive, safe, and resilient communities. - Engage in community decision-making for sustainability.
	Sustainable Tourism, Travel and Mobility involves eco-friendly transportation options aimed at reducing environmental impact and enhancing accessibility. It includes port management to ensure efficient, low-emission maritime transport and sustainable tourism practices that support local economies, preserve resources, and minimize environmental harm.	*Students* **Cognitive learning objectives** - Understand key concepts of sustainable tourism, travel, mobility, and eco-friendly transport. - Analyse the environmental and economic impacts of tourism and transport. **Socio-emotional learning objectives** - Show responsibility for promoting sustainable travel and tourism. - Contribute to discussions on balancing accessibility, growth, and environmental protection. **Behavioural learning objectives** - Practise sustainable travel habits such as low-emission transport. - Support and advocate for eco-friendly mobility policies and initiatives.
	Waste and Recycling refer to efficient waste management systems that prioritize reducing, reusing, and recycling materials to minimize landfill use, conserve resources, and reduce environmental impact. These practices promote a circular economy, support local recycling industries, and contribute to cleaner, more sustainable urban environments.	*Students* **Cognitive learning objectives** - Explain the principles of reduce, reuse, recycle in waste management. - Analyse how reducing waste supports sustainability and reduces environmental impact. **Socio-emotional learning objectives** - Develop environmental responsibility by recognising the global benefits of reducing waste. - Encourage sustainable habits by modelling proactive behaviours in social contexts. **Behavioural learning objectives** - Apply daily practices to reduce, sort, and recycle waste. - Choose reusable products and avoid single-use items to minimise waste.
Industry and Innovation for	**Inclusive and sustainable innovation and**	*Students* **Cognitive learning objectives**

| Sustainability | **industrialization** refers to the analysis and application of advanced technologies in sustainable industrialization processes, optimizing efficiency, reducing environmental impact, and promoting equitable technological access in a global context[IT3] | - Understand the concepts of sustainable infrastructure and industry's and society's needs for a systemic approach to their development
- Create awareness of new opportunities and markets for sustainability innovation, resilient infrastructure and industrial development
- Understand the role of advanced technologies in driving sustainable industrialization processes to optimize efficiency and reduce environmental impact

Socio-emotional learning objectives
- Identify collaborators to develop sustainable industries that respond to current and future challenges and which encompass new markets.
- Develop empathy and increased understanding of the challenges and opportunities related to communities affected by unequal access to technology and industrial opportunities.
- Foster a collaborative mindset that promotes inclusive, fair and sustainable practices in global technological innovation and industrial growth and explore how these could influence practices related to corporate social responsibility in organisations.

Behavioural learning objectives
- Identify opportunities and an increased understanding of how to capitalize on opportunities for greener entrepreneurship and innovation.
- Learn how to develop and sustain innovative sustainable enterprises which respond to industrial and social needs
- Implement innovative strategies that support sustainable industrial practices, integrating technology with responsibility in professional settings and in organisations' corporate social responsibility practices. |
| | **Sustainable, innovative and resilient infrastructure development** integrates smart technologies, renewable energy, and durable materials to enhance efficiency, adaptability, and | *Students*
Cognitive learning objectives
- Understand the concepts of sustainable infrastructure and industrialization and society's needs for a systemic and innovative approach to their development, including recognition of the pitfalls of unsustainable infrastructure and industrialization.
- Develop an increased understanding of local, |

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	environmental responsibility. These innovations mitigate climate risks, support economic growth, and ensure long-term functionality, promoting equitable access to reliable and eco-friendly infrastructure worldwide.	regional, national and global challenges and conflicts related to achieving sustainability in infrastructure development and industrialization. - Cultivate and apply on a local and global level an improved understanding of the term resilience in the context of sustainability related to infrastructure, industrialization and spatial planning, including an understanding of the importance of contingency planning. **Socio-emotional learning objectives** - Encourage local and regional communities to develop their infrastructure and industrial development in a more resilient and sustainable manner. - Develop an increased understanding for sustainable, innovative resilient and inclusive infrastructure in local and regional communities. **Behavioural learning objectives** - Identify opportunities, locally, regionally and globally, for greener, more sustainable and more resilient approaches to infrastructure and industrialization, understanding the overall benefits for communities and societies, especially with regard to disaster risk reduction. - Encourage and nurture collaboration with decision-makers to improve the uptake and implementation of sustainable and innovative infrastructure..
	Clean Energy and Bioeconomy is about sustainable innovation, entrepreneurship and bio-based value creation, including sustainable digital technologies	*Students* **Cognitive learning objectives** - Develop an increased understanding of different energy resources – renewable and non-renewable – and how they can drive sustainable development, including their advantages and disadvantages, environmental impact, health issues, usage, safety and energy security, and their share in the energy mix at the local, regional, national and global level. - Increase the understanding of the concept of energy efficiency and sufficiency that enables. the development of socio-technical strategies and policies - Recognise and appreciate the need for new and innovative technologies, in particular, related to technology transfer collaboration between countries. **Socio-emotional learning objectives**

| | | - Develop and improve communication skills related to the need and importance of energy efficiency and sufficiency, which includes a better understanding of the need for affordable, reliable, clean and sustainable energy for all.
- Enable the development of skills to enable better cooperation and collaboration with others to transfer and adapt energy technologies to different contexts and to share energy best practices.
- Develop a vision of a reliable, sustainable and innovative energy production facility for the, supply and usage of energy in various countries.co

Behavioural learning objectives
- Apply and evaluate measures in order to increase energy efficiency and sufficiency and to increase the production and uptake of renewable energy in the energy mix in various regions or contexts, including the application of principles to determine the most appropriate renewable energy strategy in various contexts.
- Analyse the impact and long-term effects of big energy projects (e.g., constructing an off-shore wind park) and energy related policies on different stakeholder groups (including nature).
- Acquire the practical and theoretical skills necessary to compare and assess different business models and their suitability for different energy solutions and to influence and motivate policy makers and energy suppliers to produce safe, reliable and sustainable energy. |
| | **The sustainability of information and communication technology (ICT) including supply chains** involves optimizing energy efficiency, reducing e-waste, and promoting responsible sourcing in supply chains. By adopting circular economy principles, enhancing recycling processes, and supporting innovative | **Cognitive Learning Objectives**
-    Analyze the environmental impacts of ICT throughout its life cycle, including raw material extraction, manufacturing, usage, and disposal.
-    Develop an increased understanding of the role of circular economy principles to reduce the ecological footprint of digital technologies and infrastructures.

Socio-emotional Learning Objectives
-    Acquire an increased recognition of the ethical implications of digital consumption and e-waste disposal, particularly in relation to global inequality.
-    Develop a personal commitment to promoting sustainability in ICT use and advocating for responsible innovation and procurement. |

	green technologies, ICT can minimize environmental impact and foster long-term sustainability.	**Behavioural Learning Objectives** - Recognise, design and apply the acquired skills and understanding towards ICT-related projects that reduce environmental impact, such as innovative low-energy applications or recycling campaigns. - Acquire skills to develop increased collaboration, locally, regionally and globally, to audit, improve and innovate the sustainability practices of persons, teams or organisations involved with digital systems or educational technologies.

SEA-EU micro credential course sheet

Course offers for the SEA-EU micro-credential Programmes on Future Skills or Sustainability Studies

General Information

Course Title		Code	
Course teacher			
Name, Institution, University: main teacher			
Name, Institution, University: associated teacher			
Organiser/Contact person			
Name, Institution, University			
Credits (ECTS)	**Workload**		
Possible range 1 to 5	1 ECTS = 25 to 30 h Workload, including _____ contact hours and _____ self instructed learning		
Language of instruction			
English (preferred) or local language			
Mode of provision			
☐ Physical attendance of students: 100% ☐ Physical attendance of students: partly required		☐ remote attendance possible ☐ online 100%	
Percentage of e-learning (0-100%)			
Short course description (for dissemination to students)			
Please enter a short course description for the course dissemination to students			

Organisational Information

Course format/teaching and learning method (see SEA-EU list of teaching and learning methods)
Max. number of participants

Course enrolment
Please fill in a Link to a local course enrolment platform, that is usable for all students of the Alliance or the information, how students from all Universities of the Alliance can enroll. If you need help with the course enrollment, please contact us.

Course fees

Enrolment requirements
Study level ☐ Bachelor (level 6) ☐ Master (level 7) ☐ PhD/Doctorate (level 8) Entry level of language proficiency: Other requirements:

Course dates, period and time / Link to the University's website for the course
Please enter the specific dates, period and time of the course and, if possible, the link to the course information on your university's website.

Other remarks

Learning Conditions

Course content

Learning outcomes (knowledge, skills, attitudes)
Students are able to*..(based on e.g. Bloom´s taxonomy):*

Student activities

Attendance policy

Assessment Methods (see SEA-EU list of assignments)

Grading
☐ graded ☐ non-graded (pass/fail)

Study materials/Course literature

Linkage to SEA-EU micro-credential Programmes

Linked to micro-credential programme and category (choose only one category) (see Future Skills Framework or Sustainability Studies Framework)
☐ Future Skills ☐ Higher order thinking competences ☐ Self competences ☐ Social and communication competences ☐ Transformative competences ☐ Digital and media competences ☐ Sustainability Studies ☐ Sustainability as a concept ☐ Sustainable economy ☐ Peace, justice and inclusion ☐ Life on land and in water ☐ Climate change ☐ Sustainable cities and local communities ☐ Industry and Innovation for Sustainability
Linked Competence(s)/Issue(s) in your chosen category you will provide with your teaching
List competences/issues here or mark in table below

*This course sheet is derived from the SEA-EU Joint Programme course sheet.

Meta category	Competences
Higher order thinking competences	☐ Adaptability competences ☐ Problem solving competences ☐ Critical and Systems thinking competences
Self competences	☐ Active Learning competences ☐ Self-awareness competences ☐ Complexity and ambiguity competences
Social and communication competences	☐ Collaboration and networking competences ☐ Communication competences ☐ Leadership competences
Transformative competences	☐ Entrepreneurship competences ☐ Citizenship competences ☐ Global awareness competences
Digital and media competences	☐ Data Literacy competences ☐ Media literacy competences ☐ Digital collaboration competences

Meta-category	Issues
Sustainability as a concept	☐ Key concepts and principles of sustainability ☐ Evolution of the concept of sustainable development ☐ Introduction to corporate sustainability ☐ Implementing sustainability
Sustainable economy	☐ Responsible and sustainable production and consumption ☐ Corporate Social Responsibility and decent work ☐ Green, Circular and Blue Economy
Peace, justice and inclusion	☐ Resilience, Preparedness and Emergency Management ☐ Building equitable, inclusive societies ☐ Democracy and citizenship ☐ International and Environmental Law
Life on land and in water	☐ Sustainable food production ☐ Public health, poverty and well-being ☐ Biodiversity in ecosystems ☐ Hydrosphere, Oceans and Water Management
Climate change	☐ Consequences of climate change on the ocean ☐ Greenhouse effect ☐ Social, cultural and economic consequences of climate change
Sustainable cities and local communities	☐ Sustainable city planning ☐ People, Resources and Environment ☐ Sustainable tourism, travel and mobility ☐ Waste and recycling
Industry and Innovation for Sustainability	☐ Inclusive and sustainable innovation and industrialization ☐ Sustainable, innovative and resilient infrastructure development ☐ Clean Energy and Bioeconomy ☐ The sustainability of information and communication technology (ICT) including supply chains

Teaching and Learning Methods
Definitions for SEA-EU micro-credentials

These teaching methods offer a variety of approaches to cater to different learning styles and objectives within the university education context.

Teaching method	Definition
Fieldwork	Educational activities conducted outside the classroom, typically in real-world settings. It involves hands-on experience, data collection, or research in a specific field related to the course.
Lecture	A method of teaching where an instructor presents information to a large group of students. It is a one-way communication where the lecturer imparts knowledge and concepts.
Performance	A teaching method that involves students showcasing their skills or understanding through practical demonstrations, presentations, or performances, often related to the subject matter.
Practical Study-Unit	A study unit focused on hands-on application of theoretical knowledge, often involving practical exercises, experiments, or projects related to the course.
Practicum	Similar to an internship, a practicum is a hands-on learning experience in a professional setting, typically associated with teacher training or counselling programs.
Project	A collaborative or individual task requiring students to plan, execute, and present the results of an in-depth investigation or creative work related to the course.
Seminar	A small-group discussion or workshop led by a facilitator, where students actively engage with the material, discuss concepts, and share ideas. It encourages participation and critical thinking.
Tutorials	Small-group or one-on-one sessions where students receive personalised instruction, clarification of concepts, and guidance from a tutor or instructor. Tutorials supplement larger lectures and allow for individualised learning.

*Source: Adapted from the SEA-EU "Teaching Methods. Definition for SEA-EU Joint Programmes" from the document SEA-EU_JP_definitions_Teaching_Assessment_Methods-.pdf

Annex 4: SEA-EU task 2.3 micro-credentials Methods of Assessment

Methods of Assessment for SEA-EU micro-credentials
The method of assessment should inform students exactly how they will be assessed*.

Teaching method	Definition
Analysis Task	A task which requires students to identify the primary elements of a problem or task at hand, and then outline the steps and skills required to ensure that the task is performed optimally.
Assignment	Normally an essay (or a set of written exercises) to be done away from the classroom and submitted by a set date.
Case Study (Exam conditions)	A research approach that is used to generate in-depth, multi-faceted understanding of a complex issue within a real-life context, which includes the application of discipline specific models, constructs and research literature..
Case Study (take home)	Students are required to work through a case study to identify the problem(s) and to offer potential solutions; useful for assessing students' understanding and for encouraging students to see links between theory and practice. Case studies could be provided in advance of a time-constrained assessment.
Classwork	Written or oral exercises carried out by students whilst in the classroom. Examples include: discussions, debates, translation exercises, etc.
Competencies	Refers to a continuous process which aims at building the student's capabilities (knowledge, skills and abilities), and assessing them against stated (professional) standards.
Essay	An analytical, interpretative, or critical piece of writing that expresses the writer's opinion in response to a set question, problem or issue.
Examination	A written assessment (using traditional pen and paper or a digital platform for the administration of the examination) which is carried out in a predetermined, restricted time span under invigilated conditions. This type of assessment is normally summative in nature.
Fieldwork	Work which is done on site to enable students to gain practical experience and knowledge through first hand observation.
Internship	An internship can be defined as any arrangement in which students are given opportunities to apply their learning and demonstrate their professional capabilities in the workplace, community context or other relevant settings. Assessment will be conducted by academic supervisors, industry supervisors or workplace mentors, or a combination of both.
Logbook	A systematic record of every phase of a project or placement activity.
Long Essay	An analytical, interpretative, or critical piece of writing that enables students to explore a specific subject area in some depth, explain theories and concepts; evaluate arguments, and express and support

	their own views and opinions.
Oral Examination	An examination during which students are required to verbally reply to questions posed to them in the spoken form.
	Students are asked to give an oral presentation on a particular topic for a specified length of time and could also be asked to prepare associated handout(s). Can usefully be combined with self- and peer-assessment.
Portfolio	A systematic and organised collection of a student's work that exhibits to others the direct evidence of a student's efforts, achievements, and progress over a period of time. It should include representative work, providing a documentation of the learner's performance and a basis for evaluation of the student's progress. Portfolios may include a variety of demonstrations of learning that have been gathered in the form of a physical collection of materials, videos, CD-ROMs, reflective journals, etc.
Poster	The production of a large print that can be displayed in a public space. It can include graphical images, text or a mixture of both and is usually designed with the intention of promoting an idea, event, product etc.
Report	A written document in which information is presented in an organised format. A report would normally include a descriptive statement, an account of the conditions that are observed, findings resulting from investigation and inquiry, and a conclusive summary in which the student puts forward any recommendations.
Research Paper	A research paper is an extended essay which is intended to assess the students' written, analytical, interpretative and argumentative skills, based on independent research.
Research Projects	Potential for sampling a wide range of practical, analytical and interpretative skills. Can assess wide application of knowledge, understanding and skills.
Research/Review Paper	A thorough and systematic analysis of published research findings, from which students are expected to provide new insights or interpretations about a topic or field of interest.
Role Play	Students write or give a presentation taking on a particular role, e.g. a journal reviewer/ editor, consultant, art critic etc. This type of assignment could be paired up with a grant application exercise.
Seminar Paper	A seminar paper is an advanced piece of writing which is intended to present an original piece of research to a group of peers.

*Source: Adapted from the SEA-EU "Methods of Assessment for SEA-EU Joint Programmes" from the document SEA-EU_JP_definitions_Teaching_Assessment_Methods-.pdf

Annex 5: SEA-EU task 2.3 micro-credential course certificate

SEA-EU micro-credential Course Certificate

CERTIFICATE OF PARTICIPATION

The European University of the SEAS (SEA-EU) certifies that:

Participant's name

of the [University] has successfully completed the SEA-EU micro-credential course:

Name of course	: xxx
Duration (hours)	: x
ECTS	: x [remove line if no ECTS is awarded]
Date	: xx/xx/xx – xx/xx/xx
Delivered by	: *course instructor's name*
Learning outcomes	: *short summary*
Reference to Framework	: SEA-EU Future Skills Framework (*link*)
Reference to Module	: *chosen module from the Framework*

xx.xx.20xx

Date, name & signature

SEA-EU Alliance	SEA-EU micro-credentials in the context of Task 2.3
General Understanding	A SEA-EU micro-credential programme is a collection of specific micro-credential modules[1]. This set of modules on the total of 15 ECTS[2] focus on specific learning outcomes[3] verifying what a learner knows understands or can do. The learners collect the credit points over the duration of their entire degree programme. Completed modules that sum up a minimum of 15 ECTS of the micro-credential programme provide the basis for a SEA-EU certificate[4]. The modules in the micro-credential programmes are small volumes of learning (1 to 5 ECTS).
Purpose	Learning experiences leading to micro-credential programmes are designed to provide the learner with specific knowledge, skills ethics, values and attitudes that respond to societal, personal, cultural or labour market needs in the field of future skills and sustainability studies. Therefore a SEA-EU micro-credential programme is a personalised record of achievement[5], that is additional and complementary to the learners formal learning path of their degree.
Providers	Providers of SEA-EU micro-credential courses, modules and programmes are all partner universities of the SEA-EU Alliance, or associated partner universities of the SEA-EU Alliance working in collaboration with a SEA-EU partner university.
Mode of delivery	A micro-credential programme is composed of modules from all study levels (Bachelor, Master, Doctoral Programmes). Modules consist of one or more courses[6]. Prerequisites should always be clearly communicated for learners. Learning settings are distributed in diverse, physical, online, blended, virtual and digital locations. The languages of instruction can be either English (priority) or the national language. The language level should always be clearly communicated for learners. Records of informal or non-formal learning are not applicable.

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[1] See '4. Module', in: Glossary for the definition of "micro-credentials" in SEA-EU 2.0 task 2.3 micro-credentials

[2] See '1. Credit (ECTS)', in: Glossary for the definition of "micro-credentials" in SEA-EU 2.0 task 2.3 micro-credentials

[3] See '5. Learning outcomes', in: Glossary for the definition of "micro-credentials" in SEA-EU 2.0 task 2.3 micro-credentials

[4] See '7. Certificate', in: Glossary for the definition of "micro-credentials" in SEA-EU 2.0 task 2.3 micro-credentials

[5] Mark Brown, et al., The Global Micro-credential Landscape: Charting a New Credential Ecology for Lifelong Learning, in: JL4D, 2021, Vol. 8, No. 2, pp. 228-254

[6] See '6. Course', in: Glossary for the definition of "micro-credentials" in SEA-EU 2.0 task 2.3 micro-credentials

Ownership, portability	The SEA-EU micro-credential certificates are portable. That means that the learner is able to store their micro-credential certificates in a system of their choice, to share the certificate with a party of their choice and for all parties in the exchange to be able to understand the content and verify the authenticity of the credential.
Duration	The participants select courses from the total offer according to their individual interests. They can take one or more courses each semester. The certificate for the SEA-EU micro-credential programme is only provided to learners that collect modules that add up to a minimum of 15 ECTS in total. Participants have to complete the micro-credential programme before graduating from their degree programme.
Outcomes and assessment	Within SEA-EU 2.0 two micro-credential programmes each of 15 ECTS will be developed: one in the field of 'Future Skills'[78] and one in the field of 'Sustainability Studies'[9]. Learning within a micro-credential programme takes place in the organised and structured environment of the Alliance-institutions, and leads to the award of a qualification, in the form of a certificate[10]. A micro-credential programme consists of modules which have been developed in connection with the existing study programmes at the Alliance-universities.
Standards and quality assurance	The learning outcomes have been assessed within the acknowledged systems of quality assurance at each Alliance-university[11]. A micro-credential programme is based on study regulations / examination regulations according to each university's specifications.
Certification	The CAU will provide a template to be used for the certificate. The template will be in accordance with the European standard elements to describe a micro-credential[12].

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7 See '8. Future Skills', in: Glossary for the definition of "micro-credentials" in SEA-EU 2.0 task 2.3 micro-credentials

8 A. Kotsiou et al., A scoping review of Future Skills frameworks, Irish Educational Studies, 41:1, 171-186, 2022, DOI: 10.1080/03323315.2021.2022522 and UNESCO, Futures Literacy: An Essential Competency for the 21st Century, UNESCO, https://en.unesco.org/futuresliteracy/about

9 See '9. Sustainability Studies', in: Glossary for the definition of "micro-credentials" in SEA-EU 2.0 task 2.3 micro-credentials

10 European Commission (December 2020), Final Report, A European Approach to Micro-Credentials. Output of the Micro-Credentials Higher Education Consultation Group, https://education.ec.europa.eu/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-final-report.pdf

11 UNESCO "Towards a common definition of micro-credentials", 2022, https://unesdoc.unesco.org/ark:/48223/pf0000381668, p. 6

12 EU Interinstitutional File: 2021/0402(NLE), EU-Proposal on Micro-credentials_en_2022.pdf, p. 16

Relation to other credentials	These learning outcomes complement existing qualifications, providing added value while not undermining the core principle of full degree programmes.
Stackability	The SEA-EU micro-credential programmes are stackable, where relevant, to combine different micro-credential programmes and build logically upon each other. Decisions to 'stack' or combine credential programmes lie with the receiving organisation (e.g. education and training institutions, employers, etc.) in line with their practices and should support the goals and needs of the learner. Stacking does not create an automatic entitlement to a qualification or a degree. Such decisions are made by regional and national authorities or institutions in line with their awarding processes.
Target Group	Enroled persons within SEA-EU Alliance Universities

Glossary for the definition of "micro-credentials" in SEA-EU 2.0 task 2.3 micro-credentials

1. Credit (ECTS)

ECTS credits express the volume of learning based on the defined learning outcomes and their associated workload. 60 ECTS credits are allocated to the learning outcomes and associated workload of a full-time academic year or its equivalent, which normally comprises a number of educational components to which credits (on the basis of the learning outcomes and workload) are allocated. ECTS credits are generally expressed in whole numbers.[13]

2. Workload

Workload is an estimation of the time the individual typically needs to complete all learning activities such as lectures, seminars, projects, practical work, work placements1 and individual study required to achieve the defined learning outcomes in formal learning environments. The correspondence of the full-time workload of an academic year to 60 credits is often formalised by national legal provisions. In most cases, workload ranges from 1,500 to 1,800 hours for an academic year, which means that one credit corresponds to 25 to 30 hours of work. It should be recognised that this represents the typical workload and that for individual students the actual time to achieve the learning outcomes will vary. [14]

3. Course unit

A self-contained, formally structured learning experience. It should have a coherent and explicit set of learning outcomes, defined learning activities consistent with the time allocated within the curriculum, and appropriate assessment criteria. [15]

4. Module

A course unit in a system in which each course unit carries the same number of credits or a multiple of it. [16]

5. Learning outcomes

Learning outcomes are statements of what the individual knows, understands and is able to do on completion of a learning process. The achievement of learning outcomes

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[13] European Commission, Directorate-General for Education, Youth, Sport and Culture, *ECTS users' guide 2015*, Publications Office of the European Union, 2015, **https://data.europa.eu/doi/10.2766/87192** , P.68

14 European Commission, Directorate-General for Education, Youth, Sport and Culture, ECTS users' guide 2015, Publications Office of the European Union, 2015, https://data.europa.eu/doi/10.2766/87192, P.77

15 European Commission, Directorate-General for Education, Youth, Sport and Culture, ECTS users' guide 2015, Publications Office of the European Union, 2015, https://data.europa.eu/doi/10.2766/87192 , P.68

16 European Commission, Directorate-General for Education, Youth, Sport and Culture, ECTS users' guide 2015, Publications Office of the European Union, 2015, https://data.europa.eu/doi/10.2766/87192 , P.73

has to be assessed through procedures based on clear and transparent criteria. Learning outcomes are attributed to individual educational components and to programmes at a whole. They are also used in European and national qualifications frameworks to describe the level of the individual qualification. [17]

6. Course (unit)
A self-contained, formally structured learning experience. It should have a coherent and explicit set of learning outcomes, defined learning activities consistent with the time allocated within the curriculum, and appropriate assessment criteria. [18]

7. Certificate
A certificate certifies that the learner has successfully passed all modules of a SEA-EU micro-credential-programme. The certificate attests that the learner has achieved the learning objectives of the programme.
The proof is contained in a certified document that lists the name of the holder, the achieved learning outcomes, the assessment method, the awarding body and, where applicable, the qualifications framework level and the credits gained. Micro-credentials are owned by the learner, can be shared, are portable and may be combined into larger credentials or qualifications. They are underpinned by quality assurance following agreed standards.[19]

8. Future Skills
Refers generally to the competencies that are intended to prepare learners to thrive in the face of a rapidly changing and strongly digitally shaped future with the aim to prepare, recover, and reinvent as changes occur and thus be able to work within complex, ambiguous, volatile and uncertain environments. (UNESCO, 2019) Learning opportunities include higher order thinking skills, dialogue skills, digital and STEM literacy, self-management, enterprise skills, leadership, lifelong learning and flexibility. (A. Kotsiou et. al., 2022)

9. Sustainability Studies
Sustainability Studies, anchored in the multidisciplinary field of Sustainability Science, equip students with the ability to address the complex environmental, social, governance and economic challenges individually and holistically, promoting a comprehensive and critical understanding of sustainability and sustainable development. Since natural capital cannot be replaced, Sustainability Studies aim to foster the knowledge, skills, values, and behaviours needed to support fair and well-being for both current and future generations, all within the limits of our planet.

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17 European Commission, Directorate-General for Education, Youth, Sport and Culture, ECTS users' guide 2015, Publications Office of the European Union, 2015, https://data.europa.eu/doi/10.2766/87192 , P.72

18 European Commission, Directorate-General for Education, Youth, Sport and Culture, ECTS users' guide 2015, Publications Office of the European Union, 2015, https://data.europa.eu/doi/10.2766/87192 , P.68

19 https://education.ec.europa.eu/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-final-report.pdf