

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	<p>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</p>	<p>Students</p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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.

	<p>nature of sustainability decisions.</p>	<p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
	<p>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, depolitization, 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</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - Promote global partnerships for sustainable

	<p>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.</p>	<p>development and demand governments' accountability for the SDGs.</p> <ul style="list-style-type: none"> - 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.
	<p>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 legitimization.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - Apply sustainability reporting tools (e.g., GRI

		<p>framework) to assess and compare the sustainability disclosures of real-world companies.</p> <ul style="list-style-type: none"> - 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.
	<p>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.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
<p>Sustainable economy</p>	<p>Responsible and sustainable production and consumption</p> <p>Sustainable economy refers to the expansion of an economy in a way that balances the need for increased wealth and</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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

	<p>prosperity with the consideration of social equity, environmental sustainability, and long-term stability.</p>	<p>(health, working conditions, poverty) in order to evaluate sustainable transition strategies and their trade-offs.</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
	<p>Corporate Social Responsibility and decent work Implementing sustainable methods in an organization by creating more ethical, sustainable, and equitable business</p>	<p>Students</p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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

	<p>environments through corporate social responsibility, ethical employment, sustainable Human Resources Management and fair Labor Law.</p>	<p>employment rates per sector.</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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
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		degradation.
	<p>Green, Circular and Blue Economy are important areas of Sustainable Economy. <i>Sustainable Green Economy</i> 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. <i>Sustainable Circular Economy</i> aims to decouple the relationship between growth and material use through e.g. reducing, reusing, and recycling strategies. <i>Sustainable Blue Economy</i> 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.</p>	<p>Students</p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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	<p>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</p>	<p>Students</p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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

	<p>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.</p>	<p>settlements' systems in meeting societal needs in times of crisis.</p> <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
	<p>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.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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

		<p>and entrepreneurship.</p> <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
	<p>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).</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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 <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
	<p>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</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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

	<p>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.</p>	<p>human rights framework.</p> <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
<p>Life on land and in water</p>	<p>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.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p>

		<ul style="list-style-type: none"> - 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.
	<p>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.</p>	<p>Students</p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
	<p>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.</p>	<p>Students</p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - Oppose destructive practices that cause biodiversity loss.

		<ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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).
	<p>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.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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	<p>Consequences of climate change on the ocean</p> <p>Climate change significantly impacts the ocean, leading to rising</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - Understand the physical, chemical, and biological mechanisms through which climate change impacts the ocean, including ocean warming, acidification,

<p>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.</p>	<p>and sea level rise.</p> <ul style="list-style-type: none"> - 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). <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
<p>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.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - Understand the physical principles of the greenhouse effect, identifying the major greenhouse gases (CO₂, CH₄, N₂O, 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

	<p>Meteorology helps understand atmospheric conditions, weather patterns, and climate models.</p>	<p>biosphere.</p> <ul style="list-style-type: none"> - Evaluate mitigation strategies and international policy frameworks (e.g., the Paris Agreement, Kyoto Protocol, and IPCC reports) aimed at reducing greenhouse gas emissions. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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.
	<p>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</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p>

	<p>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.</p>	<ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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 personal, 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	<p>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.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - Recognise the importance of equity, accessibility, and diverse voices in city planning. - Commit to community well-being by supporting long-term environmental responsibility. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - Design and evaluate community sustainability projects (e.g., green roofs, public transportation, park development). - Participate actively in local decision-making processes.
	<p>People, Resources and Environment provides insight into the challenges and consequences associated with global environmental and climate problems,</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p>

	<p>resource shortages, distributional issues and demographics. This includes, for example population development, prosperity and access to education.</p>	<ul style="list-style-type: none"> - Take responsibility for lifestyle impacts on the environment and society. - Relate personal needs to the broader requirements of ecosystems locally and globally. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - Collaborate in creating inclusive, safe, and resilient communities. - Engage in community decision-making for sustainability.
	<p>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.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - Understand key concepts of sustainable tourism, travel, mobility, and eco-friendly transport. - Analyse the environmental and economic impacts of tourism and transport. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - Show responsibility for promoting sustainable travel and tourism. - Contribute to discussions on balancing accessibility, growth, and environmental protection. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - Practise sustainable travel habits such as low-emission transport. - Support and advocate for eco-friendly mobility policies and initiatives.
	<p>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.</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - Explain the principles of reduce, reuse, recycle in waste management. - Analyse how reducing waste supports sustainability and reduces environmental impact. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - Develop environmental responsibility by recognising the global benefits of reducing waste. - Encourage sustainable habits by modelling proactive behaviours in social contexts. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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	<p><i>Students</i></p> <p>Cognitive learning objectives</p>

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]	<ul style="list-style-type: none"> - 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 <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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,

	<p>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.</p>	<p>regional, national and global challenges and conflicts related to achieving sustainability in infrastructure development and industrialization.</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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..
	<p>Clean Energy and Bioeconomy is about sustainable innovation, entrepreneurship and bio-based value creation, including sustainable digital technologies</p>	<p><i>Students</i></p> <p>Cognitive learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional learning objectives</p>

	<ul style="list-style-type: none"> - 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
<p>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</p>	<p>Behavioural learning objectives</p> <ul style="list-style-type: none"> - 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. <p>Cognitive Learning Objectives</p> <ul style="list-style-type: none"> - 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. <p>Socio-emotional Learning Objectives</p> <ul style="list-style-type: none"> - 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.