

NBS EduWORLD - Project Education Learning Unit Template - DRAFT

Prepared by: Prof. Gemma Donnelly-Cox, Dr Conor Dowling, Dr Maria Gallo - Trinity Business School - Last revision 22nd July 2024

Learning Unit (LU) Planning Template - High Level Overview

Name of Learning Unit (LU) Topic		Enhancing Health and Well-being with NBS					
NBS Context (e.g. urban rural, coastal)	NBS keywords complete checklist at the end of the document	Other Keywords (topics other than NBS) add in Other below	Linked or complementary concepts to NBS (to assist curriculum integration)	Prior learner knowledge of NBS (high, moderate, low/none)	Prior instructor knowledge/ skills/ competences of NBS or equivalent	Key EU NBS resources used (for instructor preparation) include link	Type of LU - lecture, workshop, field trip/site visit
any				low	low		Lecture
Target academic subject / discipline / professional area or group	Target learners/ groups [age range of learners] if applicable	Min/ Max # of learners (if applicable)	Sector (e.g, professional, higher education, community)	Prerequisites required of learners if applicable (education)	EQF (European Qualifications Framework) level (or Irish NFQ) indicative only	Time for LU (aim is 50 minutes per learning unit)	Course delivery format (e.g. in-person, hybrid, online)
healthcare, wellness, sustainability.	undergraduate higher education	n/a	higher education		EQF 6 - Irish NFQ 7/8 Ordinary/H	50 minutes	Online
Overall Purpose	Highlight the human health and well-being benefits of Nature-Based Solutions, with a focus on NBS in urban, rural and coastal communities.						
LU Summary (2-3 sentences)	This learning unit explores how natural ecosystems, applying NBS, can enhance human health and well-being. Learners examine the environmental, social, and psychological benefits of green spaces, biodiversity, and ecosystem services that employ NBS in urban, rural and coastal settings. With examples, learners assess the health and well-being impact and consider strategies to integrate NBS into policy, urban planning, and healthcare initiatives for sustainable development.						
Learning Outcome 1	Understand and analyse way that NBS enhances human health and well-being						
Learning Outcome 2	Critically discuss the environmental, social and psychological benefits of NBS in urban, rural and coastal communities.						
Learning Outcome 3	Consider strategies to integrate NBS into well-being policy, urban planning, and healthcare initiatives for sustainable development.						
Learning Outcome 4							

LU designer resources for writing learning outcomes (click Learning Outcomes - Using Taxonomies tab or pyramid [here](#))

Activities and Elements of Learning

Aim that each learning unit include at least 4 activities for an interactive learning experience

Time (duration of activity)	Aims - linked to NBS concepts or topics)	Link to Learning Outcome	Learning Activity [PPT Slide # - if applicable]	Teacher action/activity (Learner action/activity)	Confirmation of learner's learning (assessment of learning)	Link to online NBS resources (and/or academic resources with DOI as relevant)	Offline resources and materials (e.g. post-its,)
00:00 (10 minutes)	Explore how NBS positively impacts the health and well-being of communities	1	Offering overview of the definition of NBS with the focus on health/well-being. Explain concepts and factors connecting health, well-being and NBS.	Teacher ASKS: How do you think NBS impacts health and well-being? Encourage learner responses prior to definitions/concept presentation	Learner considers the link between NBS and health/well-being, then assesses their own responses compared to the research/concepts linking NBS and health/well-being.	lungman, T et al (2023) https://www.dropbox.com/scl/fi/6wy8cqlsmy4qnnshwfsjx/NBS-Health-Benefits.png?rlkey=tckel2w0g3xrmw4nd37p295mn&dl=0	
00:10 (20 minutes)	Critically discuss the environmental, social and psychological benefits of NBS in urban, rural and coastal communities.	2	Present the environmental, social and psychological benefits of NBS and have learners consider these factors in different NBS contexts: urban, rural and coastal communities.	Teacher presents the overall environmental, social and psychological benefits of NBS and invites students to consider one of 3 contexts in break-out rooms, one for urban, one for rural and one for coastal settings.	Learners work in groups (3 break-out rooms, 10 minutes) considering any specific urban, rural and coastal factors of NBS for the well-being of a community. Reporting back findings and discuss in the class group.	https://oppla.eu/case-study/19453	

00:30 (20 minutes)	Consider strategies to integrate NBS into well-being policy, urban planning, and healthcare initiatives for sustainable development.	3	Case study analysis: one case study, different angles. Learners presented with the GreenUp case study Valladolid, Spain, examining the extent of a well-being policy development in practice ; from the perspective of a case of urban planning and NBS for well-being; finally of the perspective of healthcare initiatives for sustainable development.	Teacher introduces the case study. asks of every case study: what factors made this strategy successful? What do you see as the challenges to implementation? Why?	Learner engages with the group focusing on one of the 3 thematic areas - each group gets 10 minutes to discuss the case from their perspective, with responses and questions on how the case study meets (or doesn't clearly meet) the thematic factors. An additional 5 minutes for full group discussion and responses in the chat	https://op.europa.eu/en/publication-detail/-/publication/d7d496b5-ad4e-11eb-9767-01aa75ed71a1pp199	
--------------------	--	---	---	--	--	---	--

NBS- Application of Curriculum, Trends and Skills

Curriculum integration (how it may connect to curriculum)	
---	--

<p><u>Teaching & Learning Trends employed</u></p> <p>Highlight all that apply</p> <p>(Source)</p>	<p>Project-based learning: e.g., students work in groups on a research project on greenhouses and the greenhouse effect, alternatives to waste management or investigate what are the views of their peers on climate change.</p>	<p>Peer learning: e.g., students work in groups, evaluate the work of their peers, or develop assessment questions to assess peers.</p>	<p>Problem-based Learning: e.g., students are introduced to a problem and challenged to find a solution together based on the information provided to them.</p>	<p>Student-centred learning: the learning scenarios are not based on classical instruction by the teacher, but they are expected to actively engage students in the lessons.</p>	
<p>21st Century Skills</p> <p>Highlight all that apply</p> <p>(Source)*</p>	<p>Creativity: e.g., students think of various solutions for promoting a better lifestyle in their communities or encourage greener solutions to their schools' issues.</p>	<p>Information/Media literacy: students explore examples of NBS, research similar solutions in other communities.</p>	<p>Collaboration: e.g., students work in groups and engage in task division to produce outputs.</p>	<p>Critical thinking: e.g., students learn that a debate on deforestation or climate change does not consist of two opposing camps only but involves many stakeholders with different perspectives.</p>	<p>Communication: e.g., students present their work to the whole class and learn to put forth strong arguments based on facts.</p>

*Gras-Velázquez, À., Mulvik, I. B., Campodonio, A., Nada, C. & Pocze, B. (2020) *Nature-Based Solutions in education - Validation report, European Commission, August 2020* [accessed on 25/03/2024 <https://files.eun.org/NBS/NBS-pilot-validation-report-final.pdf>] p.8.

<p>GreenComp - European Sustainability Competency Framework Highlight all that apply</p> <p>(Source) 1- Embodying Sustainability Values and 2 - Embracing Complexity in Sustainability (see pp.13-14)</p>	<p>1.1 Valuing Sustainability: To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values</p>	<p>1.2 Support Fairness: To support equity and justice for current and future generations and learn from previous generations for sustainability</p>	<p>1.3 Promoting Nature: To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems</p>	<p>2.1 Systems Thinking: To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.</p>	<p>2.2 Critical Thinking: To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.</p>	<p>2.3 Problem Solving: To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems</p>
<p>GreenComp - European Sustainability Competency Framework Highlight all that apply</p> <p>(Source) 3- Envisioning sustainable futures and 4 - Acting for Sustainability (see pp.13-14)</p>	<p>3.1 Futures Literacy: To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.</p>	<p>3.2 Adaptability: To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk. generations and learn from previous generations for sustainability</p>	<p>3.3 Exploratory Thinking: To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.</p>	<p>4.1 Political Agency: To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.</p>	<p>4.2 Collective Action: To act for change in collaboration with others.</p>	<p>4.3 Individual Initiative: To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet</p>

Author and organisation to credit when using the LU	Centre for Social Innovation - Trinity Business School, Trinity College Dublin
---	--

NB: This Learning Unit is available as part of the Creative Commons 4.0: This allows others to download this Learning Unit and share it with others as long as they credit the author/organisation, but they can't change them in any way or use them commercially.

Teacher Resources (If 'Notes' are used in the related PowerPoint presentation please indicate here)	Learner Resources (e.g. academic articles or links) for advanced reading or review (citation in individual cells)

NBS Keywords Checklist (tick here below)

	<i>Forest Preservation</i>
	<i>Forest Restoration</i>
	<i>Forest enhanced management for woodfuel harvest</i>
	<i>Forest Production</i>
	<i>Grassland Preservation</i>
	<i>Grassland Restoration</i>
	<i>Grassland grazing management</i>
	<i>Coastal Preservation</i>
	<i>Coastal Restoration</i>
	<i>Coastal maintenance of slope vegetation</i>
	<i>Maintenance of coastal, floodplain and riverine vegetation</i>
	<i>Agroforestry</i>
	<i>Reduce tillage and carbon restoration practices</i>
	<i>Agricultural intensification</i>
	<i>Urban forests and green spaces</i>
	<i>Urban green roofs</i>
x	Climate-change adaptation and mitigation
x	Sustainable cities/ sustainable communities
x	Re-naturing cities/ re-naturing communities
x	Urban regeneration
x	Coastal resilience

<https://portals.iucn.org/library/si>
<https://op.europa.eu/en/publica>
 Tunghman,
 Tamara et al.
<https://op.europa.eu/en/publica>
 Review Case Study: <https://www>

	Multi-functional watershed management	
	Enhancing the insurance value of ecosystems	
	Sustainability of the use of matter and energy	
x	Sustainable development	
x	Innovating with nature	
x	Biodiversity	
	Nature-based enterprises	
	Nature-based entrepreneurship	
	NBS and new business and investment models	
x	Citizen participation, stakeholder/community consultation	
	Disaster risk reduction	
	Risk management and resilience	
	NBS policy development and implementation	
	NBS research	
	Green infrastructure	
	Green finance / sustainable finance	
x	Ecosystem services and ecosystem-based approaches	
x	Rural municipal/local authority/government planning	
x	Coastal municipal/local authority/government planning	
x	Urban municipal/local authority/government planning	
x	Improving well-being and quality of life	
	NBS and new business and investment models	
	NBS and CCAM (Connected, Cooperative and Automated Mobility)	
	Other 1: (Please specify)	Health and NBS
	Other 2: (Please specify)	
	Other 3: (Please specify)	

Keywords Source 1: United Nations Environment Programme (2020). *The Economics of Nature-based Solutions: Current Status and Future Priorities*. United Nations Environment Programme Nairobi., p.5. (keywords above in italics)

Keywords Source 2: Faivre N, Fritz M, Freitas T, de Boissezon B, Vandewoestijne S. (2017)'Nature-Based Solutions in the EU: Innovating with nature to address social, economic and environmental challenges.' *Environ Res.* 2017 Nov;159:509-518. doi: 10.1016/j.envres.2017.08.032. Epub 2017 Sep 8. PMID: 28886502.

Keywords Source 3: European Commission (2015). *Towards an EU Research and Innovation policy agenda for Nature-Based Solutions & Re-Naturing Cities: Final Report of the Horizon 2020 Expert Group on 'Nature-Based Solutions and Re-Naturing Cities' Full Version*. Luxembourg: Publications Office.

w.urbangreenup.eu/cities/front-runners/valladolid/valladolid-spain-re-naturing-urban-plan-with-nbs.kl