GREENCOMP LEARNING OUTCOMES

I. SUSTAINABILITY VALUES

1.1 Valuing Sustainability

Learning Outcome 1: Critique sustainability arguments, policies, and actions by analyzing their underlying values and principles, including cultural and generational differences

- ***Observable*:** Analysis can be exhibited through written work, discussions, case analyses, and identification of cultural and generational differences in values perspectives
- ***Measurable*:** Rubrics can evaluate depth of value analysis, critical engagement with diverse perspectives, and understanding of how values vary across cultural and generational contexts
- ***Evaluation methods*:** Critical analysis essays, sustainability policy evaluations, argument deconstruction exercises, intergenerational dialogue analysis
- ***KSA coverage***: 1.1-K1, 1.1-K2, 1.1-K4, 1.1-S1, 1.1-S2, 1.1-A3, 1.1-A4
  - *Rationale*: To critique arguments, learners need knowledge of different value systems (1.1-K1, 1.1-K2, 1.1-K4) and the direct skills to assess and evaluate them (1.1-S1, 1.1-S2), supported by an attitude of open-mindedness and readiness to critique (1.1-A3, 1.1-A4)

Learning Outcome 2: Negotiate solutions that reach consensus aligned with specific sustainability principles while respecting diverse stakeholder perspectives

- ***Observable*:** Negotiation and solution-building skills can be demonstrated through group work, role-plays, and facilitated activities
- ***Measurable*:** Rubrics can assess how effectively learners apply negotiation skills to align solutions with explicitly defined sustainability principles, incorporate diverse perspectives, and build consensus
- ***Evaluation methods*:** Stakeholder negotiation simulations, facilitated sustainability charrettes
- ***KSA coverage***: 1.1-S4, 1.1-S5, 1.1-A2
  - *Rationale*: This outcome is achieved through the skills of articulating and negotiating values (1.1-S4) and including diverse community values (1.1-S5), coupled with a willingness to share and clarify views (1.1-A2).

Learning Outcome 3: Design and implement a personal action plan applying concrete sustainability principles to daily choices

- ***Observable*:** The learner's ability can be demonstrated through documented action plans, peer-verified activities, and structured self-reflection
- ***Measurable*:** Rubrics can assess the specificity of planned actions, evidence of implementation, and alignment with defined sustainability principles
- ***Evaluation methods*:** Peer-validated implementation records, institutional verification (where applicable), before/after sustainability impact assessments
- ***KSA coverage***: 1.1-K3, 1.1-K6, 1.1-S3, 1.1-A1
  - *Rationale*: Learners require knowledge of how values influence action (1.1-K3) and how social position influences values (1.1-K6), the skill to align personal action with those values (1.1-S3), and the propensity to act accordingly (1.1-A1)

Learning Outcome 4: Analyze how consumption drivers impact resource demand and environmental and social sustainability

- ***Observable*:** The learner can identify psychological and social factors driving consumption, link consumption patterns to resource depletion, and evaluate how different value systems affect consumption behaviors
- ***Measurable*:** Rubrics can assess depth of analysis of consumption drivers, quality of connections made between consumption and environmental and social impacts, and critical evaluation of underlying values and their implications for both ecological and social sustainability
- ***Evaluation methods*:** Consumption driver analysis exercises, integrated resource demand impact assessments examining both environmental and social consequences, critical reflection on consumption values and their sustainability implications
- ***KSA coverage***: 1.1-K5, 1.1-S2
  - *Rationale*: This analysis is based on knowing the negative consequences of certain drivers (1.1-K5) and possessing the skill to evaluate issues based on sustainability principles (1.1-S2)

1.2 Supporting Fairness

Learning Outcome 1: Apply concepts of equity, environmental justice, and intergenerational fairness when addressing various sustainability challenges while questioning personal and societal resource needs

- ***Observable*:** Application can be demonstrated through case study analyses, policy evaluations, resource allocation exercises, community impact assessments, and reflection on personal resource needs
- ***Measurable*:** Rubrics can assess the depth of equity considerations, appropriateness of justice frameworks applied, transferability across different sustainability contexts, and critical evaluation of personal consumption choices
- ***Evaluation methods*:** Resource distribution simulations, environmental justice case analyses, policy evaluation exercises, reflective personal needs assessments
- ***KSA coverage***: 1.2-K1, 1.2-K2, 1.2-S1, 1.2-S2, 1.2-A1
  - *Rationale*: Application requires knowledge of ethical concepts like justice (1.2-K1, 1.2-K2), the skills to apply these concepts as criteria (1.2-S1) and question personal needs (1.2-S2), and a commitment to reducing consumption (1.2-A1)

Learning Outcome 2: Construct inclusive solutions that respect diverse cultural views and address varying capacities to promote sustainability

- ***Observable*:** Solution-building process and outputs can be observed through group work, documentation of multiple perspectives, and analyses of implementation capabilities across contexts
- ***Measurable*:** Rubrics can measure inclusivity of solutions, cultural sensitivity, synthesis of diverse perspectives, and consideration of varying implementation capacities
- ***Evaluation methods*:** Cross-cultural sustainability solution workshops, inclusive design challenges, community capability mapping exercises
- ***KSA coverage***: 1.2-K4, 1.2-S3, 1.2-S4
  - *Rationale*: To construct inclusive solutions, learners must know that capacities differ (1.2-K4) and have the skills to respect diverse cultures (1.2-S3) and build consensus inclusively (1.2-S4)

Learning Outcome 3: Advocate for the preservation of nature for current and future generations

- ***Observable*:** Advocacy skills can be exhibited through persuasive messaging, outreach activities
- ***Measurable*:** Rubrics can evaluate clarity of message, ethical argumentation, and effective engagement strategies
- ***Evaluation methods*:** Advocacy campaign development, intergenerational dialogue facilitation
- ***KSA coverage***: 1.2-K3, 1.2-A2, 1.2-A3
  - *Rationale*: Advocacy is built on the knowledge of why preservation is important (1.2-K3) and is driven by attitudes of solidarity with (1.2-A2) and commitment to (1.2-A3) future generations

1.3 Promoting Nature

Learning Outcome 1: Explain the interconnectedness between human wellbeing and ecosystem health, including analyzing personal impacts on natural systems

- ***Observable*:** The learner can create ecosystem relationship diagrams, conduct structured personal impact analyses, and participate effectively in facilitated discussions about nature-human interdependence
- ***Measurable*:** Rubrics can assess understanding of ecological interdependence concepts, accuracy of impact analyses, and ability to identify personal connections to natural systems
- ***Evaluation methods*:** Guided environmental impact assessment projects, ecosystem mapping exercises using structured canvases, personal nature connection reflections
- ***KSA coverage***: 1.3-K1, 1.3-K2, 1.3-K3, 1.3-S1, 1.3-S5, 1.3-A4
  - *Rationale*: Explaining this connection requires knowledge of system dependencies (1.3-K1, 1.3-K2, 1.3-K3) and the skills to assess personal impact (1.3-S1) by identifying actions that reduce resource use (1.3-S5)

Learning Outcome 2: Participate actively in specific practices that restore, regenerate, and promote harmonious coexistence with nature

- ***Observable*:** The learner can document participation in practical activities, demonstrate basic techniques, and reflect on the ecological principles involved
- ***Measurable*:** Rubrics can assess level of engagement, correct application of techniques, understanding of ecological principles, and quality of reflection on practices performed
- ***Evaluation methods*:** Participation in guided restoration activities, facilitated biodiversity observations, reflective documentation of nature-based practices
- ***KSA coverage***: 1.3-S4, 1.3-A1, 1.3-A5
  - *Rationale*: Active participation is a combination of the skill to find opportunities to restore nature (1.3-S4) and attitudes reflecting care for a harmonious relationship (1.3-A1) and a drive to continuously restore nature (1.3-A5).

Learning Outcome 3: Value the rights and roles of other life forms in maintaining ecological balance

- ***Observable*:** Values can be evidenced through reflections, creative expressions, informed debates
- ***Measurable*:** Rubrics can assess depth of appreciation for biodiversity, ethical reasoning, and ecological systems understanding
- ***Evaluation methods*:** Multispecies consideration exercises, ecosystem ethics discussions, ecological relationship mapping
- ***KSA coverage***: 1.3-K4, 1.3-S2, 1.3-S3, 1.3-A3
  - *Rationale*: Valuing other life forms stems from knowing the damage humans can cause (1.3-K4), the skill of imagining respectful coexistence (1.3-S2) while acknowledging cultural diversity within planetary limits (1.3-S3), and an attitude of empathy for all life (1.3-A3).

Learning Outcome 4: Explain models for decoupling economic activity from resource consumption

- ***Observable*:** The learner can describe economic systems that minimize resource dependence, compare circular versus linear economic approaches, and identify pathways for maintaining well-being with reduced material throughput
- ***Measurable*:** Rubrics can assess understanding of decoupling concepts, ability to compare economic models, and creativity in identifying alternative approaches to well-being
- ***Evaluation methods*:** Circular economy case analyses, economic model comparisons, well-being framework development exercises
- ***KSA coverage***: 1.3-K6
  - *Rationale*: This outcome is directly covered by the knowledge of the need to decouple production from resources (1.3-K6)

Learning Outcome 5: Analyze how resource depletion contributes to social conflicts and environmental disasters

- ***Observable*:** The learner can identify historical and current examples of resource-related conflicts, trace causal pathways between resource scarcity and social instability, and predict potential conflict zones based on resource vulnerability analysis
- ***Measurable*:** Rubrics can assess depth of causal analysis, quality of evidence used to support connections between resource depletion and social conflicts, ability to identify links between resource scarcity and environmental disasters, and understanding of complex socio-ecological interactions including feedback mechanisms.
- ***Evaluation methods*:** Case study analyses of resource-based conflicts and environmental disasters, predictive scenario exercises for resource-vulnerable regions assessing both conflict potential and disaster risk, interdisciplinary research projects linking environmental and social dimensions of resource crises, and comparative analyses examining how resource depletion triggers different outcomes (conflicts vs. disasters) in different contexts.
- ***KSA coverage***: 1.3-K5
  - *Rationale*: The analysis is based on the specific knowledge that exhausting natural resources can lead to disasters and conflicts (1.3-K5).

Learning Outcome 6: Challenge anthropocentric perspectives in approaches to environmental protection

- ***Observable*:** The learner can identify anthropocentric assumptions in environmental policies and practices, articulate alternative perspectives that value non-human life intrinsically, and develop approaches to environmental issues that consider multiple species' interests as morally significant in their own right.
- ***Measurable*:** Rubrics can assess ability to recognize human-centered biases, depth of engagement with non-anthropocentric ethical frameworks, and application of multi-species considerations in environmental decision-making
- ***Evaluation methods*:** Critical analysis of environmental protection frameworks, development of multi-species ethical approaches to environmental cases, comparative evaluation of anthropocentric versus ecocentric protection strategies
- ***KSA coverage***: 1.3-A2
  - *Rationale*: Challenging this perspective is a direct expression of the attitude of being "critical towards the notion that humans are more important than other life forms" (1.3-A2).

II. EMBRACING COMPLEXITY

2.1 Systems Thinking

Learning Outcome 1: Analyze how human activities across domains impact environmental and societal systems

- ***Observable*:** Systems analysis can be exhibited through mapping exercises, causal loop diagrams
- ***Measurable*:** Rubrics can assess systems thinking capabilities, identification of interconnections, cross-domain analysis
- ***Evaluation methods*:** Systems mapping projects, cross-impact assessments, domain interaction analyses
- ***KSA coverage***: 2.1-K1, 2.1-K2, 2.1-S1, 2.1-S2, 2.1-A1, 2.1-A3
  - *Rationale*: The analysis relies on knowing that actions have impacts across time and space (2.1-K1, 2.1-K2), having skills to describe and assess these interactions (2.1-S1, 2.1-S2), and being concerned about the impacts (2.1-A3)

Learning Outcome 2: Map the interactions, feedbacks, and cascading effects within complex sustainability issues

- ***Observable*:** Mapping skills can be demonstrated through models, simulations, visualizations
- ***Measurable*:** Rubrics can evaluate accuracy of feedback identification, complexity of interactions mapped, recognition of emergent properties
- ***Evaluation methods*:** Systems modeling projects, feedback loop identification exercises, cascade effect analyses
- ***KSA coverage***: 2.1-K4, 2.1-K5, 2.1-S3, 2.1-S5, 2.1-A2, 2.1-A4, 2.1-A5
  - *Rationale*: Mapping requires knowledge of complex systems concepts and the SDGs (2.1-K4, 2.1-K5), the skill to assess interactions (2.1-S3) and identify leverage points (2.1-S5), and is driven by a holistic grasp of connections and cascade effects (2.1-A2, 2.1-A5) and a sense of care for the systemic consequences of environmental crises (2.1-A4)

Learning Outcome 3: Apply systems modeling, life cycle assessment techniques, and resource minimization methods to sustainability challenges

- ***Observable*:** Application can be observed through computation models, life cycle reports, and resource efficiency analyses
- ***Measurable*:** Scoring criteria can assess the validity of models, completeness of life cycle considerations, appropriate application of techniques, and effectiveness of resource minimization strategies
- ***Evaluation methods*:** Life cycle assessment projects, systems model development, integrated sustainability assessments, resource efficiency audits
- ***KSA coverage***: 2.1-K3, 2.1-S4
  - *Rationale*: Application of these methods is supported by knowledge of life cycle thinking (2.1-K3) and the skill to use it in analysis (2.1-S4)

2.2 Critical Thinking

Learning Outcome 1: Evaluate the reliability of sustainability information sources and claims

- ***Observable*:** Evaluation ability can be exhibited through source analysis, fact-checking
- ***Measurable*:** Rubrics can measure source evaluation rigor, claim verification, identification of biases
- ***Evaluation methods*:** Information source credibility analyses, sustainability claim verification projects, critical media evaluations
- ***KSA coverage***: 2.2-K1, 2.2-K4, 2.2-S3, 2.2-S5, 2.2-A5
  - *Rationale*: Evaluation requires knowing that claims can be misleading (2.2-K4) and that understanding evolves (2.2-K1), having the skills to scrutinize sources (2.2-S3, 2.2-S5), and maintaining a skeptical attitude (2.2-A5)

Learning Outcome 2: Deconstruct arguments to identify underlying assumptions, biases, and contexts

- ***Observable*:** Deconstruction can be observed through argument mapping, critical analysis
- ***Measurable*:** Rubrics can assess identification of assumptions, recognition of biases, and contextualization of arguments
- ***Evaluation methods*:** Argument deconstruction workshops, assumption identification exercises, bias recognition activities
- ***KSA coverage***: 2.2-K2, 2.2-K3, 2.2-K5, 2.2-S2, 2.2-A2
  - *Rationale*: Deconstruction depends on knowing about biases and narratives (2.2-K2, 2.2-K3), knowing that progress requires challenging the *status quo* (2.2-K5), possessing the skill to analyze arguments for these elements (2.2-S2), and trusting in the scientific process (2.2-A2).

Learning Outcome 3: Formulate evidence-based perspectives on sustainability issues that integrate diverse human and non-human considerations

- ***Observable*:** The learner can create well-reasoned position papers, engage constructively in structured discussions, and synthesize multiple viewpoints into coherent arguments
- ***Measurable*:** Rubrics can assess evidence consideration and integration, representation of diverse viewpoints (including human and non-human elements), and logical coherence of arguments
- ***Evaluation methods*:** Evidence-based perspective presentations, informed debates on sustainability issues, peer-reviewed position papers
- ***KSA coverage***: 2.2-K1, 2.2-S1, 2.2-S4, 2.2-A1, 2.2-A3, 2.2-A4
  - *Rationale*: Formulation of perspectives requires the skill to apply personal reasoning (2.2-S1) and reflect on decisions (2.2-S4), supported by attitudes of curiosity (2.2-A1), readiness to revise views (2.2-A3), and willingness to discuss issues (2.2-A4)

2.3 Problem Framing

Learning Outcome 1: Differentiate between simple, complicated, and complex sustainability problems

- ***Observable*:** Differentiation can be seen through problem classification exercises
- ***Measurable*:** Rubrics can assess accuracy of problem categorization, understanding of complexity factors
- ***Evaluation methods*:** Problem complexity mapping exercises, typology application case studies, complexity classification activities
- ***KSA coverage***: 2.3-K1, 2.3-K2, 2.3-K4, 2.3-A2
  - *Rationale*: Differentiating problem types relies on knowing that problems vary in complexity (2.3-K1, 2.3-K4) and that framing matters (2.3-K2), along with a commitment to avoid oversimplification (2.3-A2)

Learning Outcome 2: Transform sustainability problem definitions by systematically integrating diverse stakeholder viewpoints and systems-level considerations

- ***Observable*:** The learner can produce comparative problem statements, develop stakeholder journey maps, create systems-focused mind maps, and articulate how problem definitions change with new perspectives
- ***Measurable*:** Rubrics can assess the breadth of stakeholder perspectives included, depth of transformation in problem definition, systems-level insights generated, and quality of the reframing process
- ***Evaluation methods*:** Multi-perspective problem reframing workshops, stakeholder mapping exercises with systems analysis, comparative problem definition analyses
- ***KSA coverage***: 2.3-K3, 2.3-S1, 2.3-S2, 2.3-A4
  - *Rationale*: This requires knowing the need for different perspectives (2.3-K3), the skills to factor in those perspectives (2.3-S1) with a systemic approach (2.3-S2), and an empathetic listening attitude (2.3-A4)

Learning Outcome 3: Select appropriate strategies to mitigate, adapt, and solve sustainability challenges

- ***Observable*:** Strategy selection can be exhibited through action plan development
- ***Measurable*:** Scoring how well strategies match problem characteristics, feasibility of implementation, and potential effectiveness
- ***Evaluation methods*:** Sustainability strategy selection matrices, intervention design projects, adaptive management planning
- ***KSA coverage***: 2.3-K5, 2.3-S3, 2.3-S4, 2.3-S5
  - *Rationale*: Selecting strategies involves knowing that problems need frequent reframing (2.3-K5) and using skills to establish transdisciplinary approaches (2.3-S3), explore alternatives (2.3-S4), and identify suitable approaches (2.3-S5)

III. ENVISIONING SUSTAINABLE FUTURES

3.1 Futures Literacy

Learning Outcome 1: Create alternative scenario models that question current paradigms and envision transformative sustainable futures

- ***Observable*:** The learner can develop structured scenario frameworks using appropriate tools, generate evidence-informed future narratives, visualize alternative futures through various media, and explain the assumptions underlying different scenarios
- ***Measurable*:** Rubrics can assess the learner's ability to question established paradigms, integrate sustainability principles with future trends, apply creative thinking within evidence-based constraints, and develop comprehensive systems-level scenarios
- ***Evaluation methods*:** Future scenario development projects using structured canvases and templates, sustainability visioning workshops with explicit competence development goals, scenario comparison and critique exercises
- ***KSA coverage***: 3.1-K1, 3.1-K5, 3.1-S1, 3.1-A4
  - *Rationale*: Creating scenarios requires knowledge of different future types (3.1-K1) and the role of human effects (3.1-K5), the skill to envisage alternatives (3.1-S1), and a creative, participatory attitude (3.1-A4)

Learning Outcome 2: Assess opportunities, risks, and implications of different future scenarios

- ***Observable*:** The learner can produce analytical scenario evaluation reports, deliver coherent presentations on scenario implications, prototype key elements of preferred scenarios, and test assumptions through structured simulation exercises
- ***Measurable*:** Rubrics can assess the comprehensiveness of analysis, consideration of diverse stakeholder impacts, practicality of implementation pathways, and critical evaluation of scenario assumptions and limitations
- ***Evaluation methods*:** Participatory scenario workshops, rapid prototyping of scenario elements, scenario impact analysis projects, future pathways comparison matrices
- ***KSA coverage***: 3.1-K4, 3.1-S2, 3.1-A3
  - *Rationale*: Assessment is based on knowing that scenarios inform decisions (3.1-K4), the skill to analyze futures (3.1-S2), and an awareness of how personal preferences can influence evaluation (3.1-A3)

Learning Outcome 3: Design a pathway with interventions toward a preferred sustainable future

- ***Observable*:** The learner can create detailed transition roadmaps with milestones, develop implementation timelines with specific actions, implement initial pathway elements as pilot activities, and document lessons learned from implementation attempts
- ***Measurable*:** Rubrics can assess the viability of proposed interventions, specificity of action plans, internal coherence of the pathway design, and effectiveness of initial implementation efforts
- ***Evaluation methods*:** World Cafe workshops for collaborative pathway development, transition pathway planning projects with pilot implementation components, intervention design and testing activities
- ***KSA coverage***: 3.1-K2, 3.1-K3, 3.1-S3, 3.1-A1, 3.1-A2
  - *Rationale*: Designing a pathway requires knowledge of different timeframes (3.1-K2) and past events (3.1-K3), the skill to identify actions that lead to the preferred future (3.1-S3), and a long-term perspective (3.1-A1) driven by a concern for the future impact of today's actions (3.1-A2)

3.2 Adaptability

Learning Outcome 1: Adapt personal practices in response to changing sustainability contexts, constraints, and new information

- ***Observable*:** The learner can modify existing routines when presented with new sustainability information, apply sustainable approaches across varying life situations, document implemented changes, and participate constructively in collaborative sustainability activities
- ***Measurable*:** Rubrics can assess the learner's ability to modify practices in different contexts, respond effectively to constraints, incorporate new sustainability information, and collaborate with others on sustainability adaptations
- ***Evaluation methods*:** Personal adaptation challenges with documented outcomes, sustainability adaptation case studies, collaborative problem-solving exercises for sustainability transitions
- ***KSA coverage***: 3.2-K4, 3.2-S1, 3.2-S2, 3.2-A2, 3.2-A4
  - *Rationale*: Adapting practices requires knowing which lifestyle aspects need adapting (3.2-K4), the skills to adapt to different approaches (3.2-S1) and lifestyles (3.2-S2), and a willingness to try alternatives (3.2-A2)

Learning Outcome 2: Make decisions by evaluating sustainability tradeoffs across domains and scales

- ***Observable*:** Decision-making can be demonstrated through tradeoff analyses, multi-criteria decisions
- ***Measurable*:** Rubrics can evaluate consideration of multiple domains, cross-scale impacts, and balancing of tradeoffs
- ***Evaluation methods*:** Sustainability tradeoff analysis projects, multi-criteria decision workshops, cross-domain impact assessments
- ***KSA coverage***: 3.2-K5, 3.2-A5
  - *Rationale*: Evaluating tradeoffs requires knowledge of the link between local and global impacts (3.2-K5) and an attitude of being able to cope with such tradeoffs in decisions (3.2-A5)

Learning Outcome 3: Formulate adaptive strategies to manage socio-ecological transitions necessitated by environmental and societal changes

- ***Observable*:** The learner can create comprehensive adaptation plans that address specific change scenarios, conduct vulnerability assessments that identify at-risk populations and systems, and design resilience-building frameworks with specific intervention points
- ***Measurable*:** Rubrics can assess the comprehensiveness of strategies, appropriate consideration of vulnerable populations, effective integration of social and ecological factors, and feasibility of implementation pathways
- ***Evaluation methods*:** Socio-ecological transition scenario exercises with strategy development components, vulnerability mapping projects with response planning, collaborative adaptation planning workshops with tangible outputs
- ***KSA coverage***: 3.2-K1, 3.2-K2, 3.2-K3, 3.2-S3, 3.2-S4, 3.2-A1, 3.2-A3
  - *Rationale*: Formulating strategies requires knowledge of uncertainty and risk (3.2-K1, 3.2-K2, 3.2-K3), the skills to navigate ambiguity (3.2-S4) and consider local context (3.2-S3), and acknowledging emotional impacts (3.2-A1)

3.3 Exploratory Thinking

Learning Outcome 1: Synthesize knowledge from various disciplines to approach sustainability issues

- ***Observable*:** Synthesis can be exhibited through research synthesis and briefs
- ***Measurable*:** Rubrics can evaluate transdisciplinary integration, concept application across domains
- ***Evaluation methods*:** Transdisciplinary research projects, integrative knowledge synthesis presentations
- ***KSA coverage***: 3.3-K1, 3.3-K4, 3.3-S1, 3.3-S2, 3.3-S3
  - *Rationale*: Synthesis requires broad foundational knowledge of sustainability concepts (3.3-K4), an understanding that disciplines must be combined (3.3-K1), and the specific skills to use evidence (3.3-S1), combine knowledge (3.3-S2), and synthesize information (3.3-S3)

Learning Outcome 2: Experiment with innovative problem-solving methods such as systems thinking to address sustainability challenges

- ***Observable*:** The learner can apply diverse problem-solving methodologies to sustainability issues, test different approaches across varying contexts, document comparative results, and refine methods based on outcomes
- ***Measurable*:** Rubrics can assess creativity in approach selection, methodological rigor in application, robustness of methods across different contexts, and effectiveness of generated solutions
- ***Evaluation methods*:** Structured problem-solving methodology comparisons with documented outcomes, innovation sandboxes with reflection components, methodology adaptation exercises
- ***KSA coverage***: 3.3-K2, 3.3-K3, 3.3-S4, 3.3-A1, 3.3-A4
  - *Rationale*: Experimentation is based on knowing its importance (3.3-K2) and having knowledge of innovative concepts like the circular economy (3.3-K3). This is put into practice through the skill of applying those concepts (3.3-S4) and attitudes that favor experimentation (3.3-A1) and daring choices (3.3-A4)

Learning Outcome 3: Accommodate diverse perspectives when exploring sustainable solutions

- ***Observable*:** The learner can effectively participate in and facilitate inclusive problem-solving processes, integrate different viewpoints into solution development, document how diverse perspectives influence outcomes, and adapt approaches based on stakeholder feedback
- ***Measurable*:** Rubrics can assess the breadth and depth of perspective integration, quality of facilitation techniques, responsiveness to diverse stakeholder inputs, and enhancement of solutions through perspective incorporation
- ***Evaluation methods*:** Living Labs to co-create sustainability solutions, critical reflection sessions on perspective integration, facilitated multi-stakeholder solution development workshops
- ***KSA coverage***: 3.3-S5, 3.3-A2, 3.3-A3
  - *Rationale*: This is achieved through the skill of accommodating divergent opinions (3.3-S5) and attitudes that embrace different ways of thinking (3.3-A2, 3.3-A3)

IV. ACTING FOR SUSTAINABILITY

4.1 Political Agency

Learning Outcome 1: Analyze how political systems, policies, and power impact sustainability

- ***Observable*:** Analysis can be exhibited through policy briefs, governance audits
- ***Measurable*:** Rubrics evaluating analytical depth, system understanding, power dynamics recognition
- ***Evaluation methods*:** Policy impact analyses, governance structure evaluations, power mapping exercises
- ***KSA coverage***: 4.1-K1, 4.1-S1, 4.1-A4
  - *Rationale*: The analysis requires knowledge of how political systems should work (4.1-K1), the skill to analyze how they exert influence (4.1-S1), and a commitment to questioning policy effectiveness (4.1-A4)

Learning Outcome 2: Apply knowledge and skills for effective participation in democratic processes to advance sustainability policies

- ***Observable*:** The learner can analyze policy processes and stakeholders, formulate evidence-based advocacy positions, develop persuasive sustainability communications, and participate effectively in structured democratic exercises
- ***Measurable*:** Rubrics can assess the quality of policy analysis, effectiveness of advocacy arguments, understanding of democratic processes, ability to engage diverse stakeholders, and critical reflection on political engagement
- ***Evaluation methods*:** Simulated policy advocacy exercises with specific objectives, democratic process participation case studies with reflective analysis, structured stakeholder engagement mapping projects
- ***KSA coverage***: 4.1-K3, 4.1-S2, 4.1-S4, 4.1-A1
  - *Rationale*: Effective participation is based on knowing how to engage stakeholders (4.1-K3) and using the skills to engage in civic activities (4.1-S2) and propose alternative pathways (4.1-S4), all while being committed to being an agent of change (4.1-A1)

Learning Outcome 3: Advocate for political responsibility and sustainability accountability

- ***Observable*:** Advocacy can be exhibited through position statements, messaging campaigns
- ***Measurable*:** Rubrics scoring persuasiveness, ethical reasoning, effective accountability frameworks
- ***Evaluation methods*:** Accountability campaign development, political engagement strategy designs, responsibility framework development
- ***KSA coverage***: 4.1-K2, 4.1-K4, 4.1-S3, 4.1-A2, 4.1-A3
  - *Rationale*: Advocacy requires knowing the relevant stakeholders (4.1-K2) and accountability policies (4.1-K4), and having the skill to identify key stakeholders (4.1-S3). This is driven by attitudes that expect public institutions to serve the common good (4.1-A2) and demand accountability (4.1-A3)

4.2 Individual Initiative

Learning Outcome 1: Evaluate one's potential to drive positive environmental changes

- ***Observable*:** The learner can conduct structured self-assessments of sustainability strengths and limitations, maintain reflective diaries and progress timelines for sustainability actions, analyze personal spheres of influence, and document engagement with both self-initiated and collaborative sustainability initiatives
- ***Measurable*:** Rubrics can assess depth and accuracy of self-awareness, realism and feasibility of capability assessment, identification of meaningful intervention points, and evidence of initiative in both leadership and supportive roles
- ***Evaluation methods*:** Structured personal change agent evaluations with specific criteria, environmental leadership and participation portfolios, analytical reflections on participation in sustainability initiatives led by others
- ***KSA coverage***: 4.2-K1, 4.2-K3, 4.2-K4, 4.2-K5, 4.2-S4, 4.2-S6, 4.2-A2, 4.2-A3, 4.2-A4,
  - *Rationale*: To evaluate one's potential, learners must build upon a foundation of knowledge: knowing this potential exists (4.2-K1), understanding their commitment to society and the environment (4.2-K3) , recognizing that inaction is also a choice (4.2-K4), and that every action has an impact (4.2-K5). This evaluation involves assessing key skills like mobilizing others (4.2-S4) and identifying stakeholder networks (4.2-S6), supported by key attitudes like confidence (4.2-A4), a willingness to act on complex problems (4.2-A2), and a drive to advocate for care (4.2-A3).

Learning Outcome 2: Apply resource efficiency, reuse, and sharing principles in personal and group contexts

- ***Observable*:** The learner can document specific changes in consumption practices, demonstrate sharing and reuse techniques, calculate personal resource footprints, and contribute to collective resource optimization initiatives
- ***Measurable*:** Rubrics can assess comprehensiveness of applied principles, evidence of behavioral change through documented practices, quantifiable resource reduction achievements, and effectiveness of collaborative resource optimization
- ***Evaluation methods*:** Structured resource efficiency challenges with clear metrics, small-scale circular economy projects with documented outcomes, collaborative consumption initiatives with defined roles
- ***KSA coverage***: 4.2-S1, 4.2-S5, 4.2-A5
  - *Rationale*: This outcome focuses on tangible action. Applying principles of resource efficiency (4.2-S1) is only possible through the practical skill of overcoming one's own resistance to changing habits (4.2-S5). This action is underpinned and motivated by the core belief that everyday actions matter (4.2-A5)

Learning Outcome 3: Apply the precautionary principle through targeted actions that help prevent ecological and human harm

- ***Observable*:** The learner can identify specific risk areas for precautionary action, contribute to preventative intervention planning, participate in defined precautionary actions, and document outcomes of preventative measures implemented
- ***Measurable*:** Rubrics can assess understanding of the precautionary principle, quality of risk analysis, appropriateness of proposed preventative measures, and level of engagement in precautionary actions
- ***Evaluation methods*:** Guided environmental risk assessment exercises with specific protocols, structured participation in existing preventative initiatives, small-scale precautionary action pilots with defined parameters
- ***KSA coverage***: 4.2-K2, 4.2-S2, 4.2-S3, 4.2-A1
  - *Rationale*: Applying the precautionary principle requires knowledge of what it is (4.2-K2) and is put into practice through the skill of acting promptly (4.2-S3). This action requires the associated skill of taking personal initiative and persisting in that action, especially in contexts of uncertainty (4.2-S2), all guided by a proactively caring attitude (4.2-A1).

4.3 Collective Action

Learning Outcome 1: Build diverse coalitions by identifying stakeholder strengths and roles

- ***Observable*:** Coalition building can be exhibited through stakeholder mapping, outreach
- ***Measurable*:** Metrics like coalition diversity, stakeholder engagement rates, role clarity
- ***Evaluation methods*:** Stakeholder coalition development projects, collaboration mapping exercises, partnership strength assessments
- ***KSA coverage***: 4.3-K1, 4.3-S1, 4.3-S5
  - *Rationale*: Building coalitions requires knowing who the stakeholders are (4.3-K1) and using the skills to build the coalition itself (4.3-S1) while identifying the strengths of its members (4.3-S5)

Learning Outcome 2: Facilitate, initiate, or actively participate in inclusive community processes for coordinated sustainability action

- ***Observable*:** The learner can design and implement inclusive outreach strategies, utilize accessible facilitation methods during community activities, create documentation that enables diverse participation, and adapt processes based on community feedback
- ***Measurable*:** Rubrics can assess the inclusivity of facilitation techniques, breadth and depth of stakeholder participation, effectiveness of group processes, and level of community involvement across diverse demographic groups
- ***Evaluation methods*:** Structured community dialogue facilitation with specific objectives, participatory planning projects with inclusivity metrics, community engagement case studies with critical analysis
- ***KSA coverage***: 4.3-K2, 4.3-K3, 4.3-K4, 4.3-S2, 4.3-S3, 4.3-S4, 4.3-A2, 4.3-A5
  - *Rationale*: Participation requires knowledge of democratic processes and inclusivity (4.3-K2, 4.3-K3, 4.3-K4), the skills to create inclusive processes (4.3-S2, 4.3-S3, 4.3-S4), and the motivation (4.3-A2) and commitment (4.3-A5) to collaborate for a fair future.

Learning Outcome 3: Connect personal sustainability actions to collective implementation of explicitly defined sustainability visions

- ***Observable*:** The learner can map their personal sustainability actions to specific elements of shared sustainability frameworks, identify roles within collective initiatives, develop action plans that align individual and group efforts, and document their contributions to shared projects
- ***Measurable*:** Rubrics can assess the coherence between individual and collective actions, clarity of role definition, evidence of adaptation to collective contexts, and tangible contributions to shared sustainability goals
- ***Evaluation methods*:** Living Labs for collaborative future visioning and implementation with identified roles and responsibilities, collective action reflection workshops with structured assessment frameworks, community sustainability project participation with documented individual contributions
- ***KSA coverage***: 4.3-S6, 4.3-A1, 4.3-A3, 4.3-A4
  - *Rationale*: This connection is made through the skill of acting in line with shared narratives (4.3-S6) and is guided by attitudes that prioritize collective sustainability values (4.3-A3), a willingness to challenge the *status quo* with others (4.3-A1), and a desire to give back to the community (4.3-A4)