

Sustainability Across the Curriculum Working Group

Working Group Resources &
Context

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The most commonly referenced definition of Sustainability / Sustainable Development:

“Meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

-Brundtland Commission, 1987

“Sustainability is equity over time. As a value, it refers to giving equal weight in your decisions to the future as well as the present. You might think of it as extending the Golden Rule through time, so that you do unto future generations as you would have them do unto you.”

-Robert Gilman, Director, Context Institute

“A transition to sustainability involves moving from linear to cyclical processes and technologies. The only processes we can rely on indefinitely are cyclical; all linear processes must eventually come to an end.”

-Dr. Karl Henrik-Robert, MD, founder of The Natural Step, Sweden

“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”

-Aldo Leopold

The Natural Step's Four Sustainability Principles:

To become a sustainable society we must eliminate our contributions to...

the systematic increase of concentrations of substances extracted from the Earth's crust (ex. heavy metals and fossil fuels)

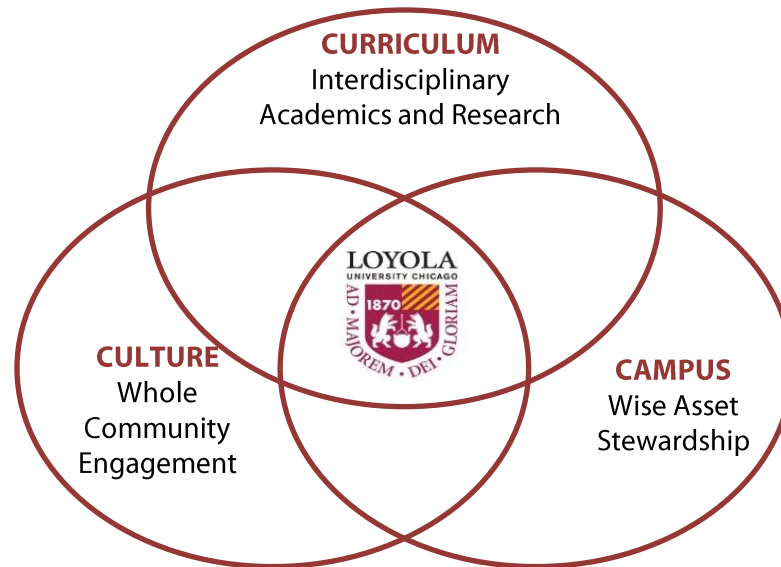
the systematic increase of concentrations of substances produced by society (ex. plastics, dioxins, PCBs and DDT)

the systematic physical degradation of nature and natural processes (ex. over harvesting forests, destroying habitat and overfishing); and...

conditions that systematically undermine people's capacity to meet their basic human needs (ex. unsafe working conditions and not enough pay to live on).

LOYOLA'S SUSTAINABILITY MISSION

Sustainability at Loyola is driven by **our Jesuit tradition**, our service to humanity and our role as an institution of higher learning. It is embodied in an educational experience and activities that seek to meet the needs of **the present generation** without compromising the ability of **future generations** to meet their own needs. We are committed to an inclusive process of University decision-making considering **social, economic and environmental** impacts and exemplified in a transformative education for our students.



Sustainability Across the Curriculum

The following are learning outcomes we support through the integration of sustainability principles in the University life of our students:

- Ability to connect with others
- Capacity to understand and describe consequences, both individual and collective
- Commitment to develop strategies knowing they are incomplete, imperfect or temporary
- Ability to demonstrate sustainability expertise specific to their area of study
- Capacity to integrate and synthesize (participatory fluency)
- Ability to understand, describe and take part in reflective or contemplative practice
- The ability to understand, measure and influence earth systems

(adapted from Northern Arizona University/G. Chase)

<http://www.luc.edu/sustainability/academics/sustainabilityacrosscurriculum/>



Examples from other campuses

- Interconnectedness, interdependence and systems understanding
- Equity and justice
- Global to local perspectives / or biospheric to bioregional perspectives
- Sustainability in practice
(Choosing/measuring/portraying what matters and protecting what matters)

Source: Curriculum for the Bioregion – Washington Center

Examples from other campuses

- Students will learn to balance personal development and service to others
- Students will develop ecological literacy
- Learning outcomes will be oriented toward social and environmental justice
- Faculty will include multicultural and environmental components in all courses
- Multicultural or environmental service learning will be required for graduation

Source: Prescott College

Examples from other campuses

- Students will be able to define sustainability.
- Students will be able to explain how sustainability relates to their lives and their values, and how their actions impact issues of sustainability.
- Students will be able to utilize their knowledge of sustainability to change their daily habits and consumer mentality
- Students will be able to explain how systems – ecosystems, individual humans in society – are interrelated.
- Students will learn change agent skills.
- Students will learn how to apply concepts of sustainability to their campus and community by engaging in the challenges and solutions of sustainability on their campus.
- Students will learn how to apply concepts of sustainability globally by engaging in the challenges and the solutions of sustainability in a world context.

Source: Carleton College

Examples from other campuses

Sustainability is commonly defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” The University of Maryland is committed to being a national model for a green university ² and preparing all students to help create a more sustainable world. ³ Toward this goal, the Education for Sustainability Work Group of the University Sustainability Council recommends further integrating sustainability into existing academic programs and campus life so that all students earning an undergraduate degree from the University of Maryland will be able to:

- 1. Describe how sustainability relates to environmental issues, social justice, and economic development.*
- 2. Explain how natural, economic, and social systems interact to foster or prevent sustainability.*
- 3. Evaluate how an individual’s choices and activities impact the environment and, as a result, affect the health and well-being of everyone.*
- 4. State a long-term vision for individual happiness and societal well-being and explain how existing norms contribute to or diminish this vision.*
- 5. Demonstrate an ability to collaborate and communicate effectively across academic disciplines and with diverse stakeholders.*
- 6. Apply their knowledge of sustainability to their behaviors as consumers, citizens, and/or leaders.*

Ecological Literacy

- the laws of thermodynamics
- the basic principles of ecology
- carrying capacity
- energetics
- least-cost, end-use analysis
- how to live well in a place
- limits of technology
- appropriate scale
- sustainable agriculture and forestry
- steady-state economics
- environmental ethics

Source: David Orr "What is Education For?" <http://www.context.org/iclib/ic27/orr/>

Examples from other campuses

“Key Competencies for Sustainability”

by Wiek, Withycombe, and Redman

Systems thinking

Variables/indicators, sub-systems, structures, functions
Feedback loops, complex cause-effect chains, cascading effects, inertia, tipping points, legacy, resilience, adaptation, structuration
Across/multiple scales: local to global
Across/multiple/coupled domains: society, environment, economy, technology
People and social systems: values, preferences, needs, perceptions, (collective) actions, decisions, power, tactics, politics, institutions

Strategic

Intentionality
Transitions and transformation
Strategies, action programs, (systemic) intervention, transformative governance
Success factors, viability, feasibility, effectiveness, efficiency
Adaptation and mitigation
Obstacles (resistance, path dependency, habits)
Social learning
Social movements

Normative

(Un-)sustainability of current or future states
Sustainability principles, goals, targets, thresholds
Concepts of justice, fairness, responsibility, safety, happiness
Concept of risk, harm, damage
Concept of reinforcing gains (“win-win”) and tradeoffs
Ethical concepts

Anticipatory

Concepts of time including temporal phases (past, present, future)
Concept of uncertainty and epistemic status including backcasting and envisioning methods possibility, probability, desirability of future developments (predictions, scenarios, visions)
Concepts of inertia and path dependency
Concepts of consistency and plausibility of future developments
Concepts of risk, intergenerational equity, precaution

Interpersonal

Functions, types, and dynamics of collaboration
Strengths, weaknesses, success, and failure in teams
Concepts of leadership
Limits of cooperation and empathy
Concepts of solidarity and ethnocentrism