

# **Kerala University of Digital Sciences, Innovation and Technology**



## **MSc Environmental Sustainability (One-Year Program)**

Curating a responsible digital world

**Programme Curriculum -2026 Admission**

**School of Informatics**

# MSc Environmental Sustainability

## About the program

The One-Year Master's Programme in Environmental Sustainability is an advanced, interdisciplinary postgraduate programme designed to address the pressing environmental and sustainability challenges of the 21st century. Aligned with the UGC PG Framework 2024 and NCRF/NHEQF Level-6.5, the programme integrates scientific understanding, analytical competence, and applied sustainability practice to prepare graduates for professional and research-oriented roles at national and global levels.

The programme provides learners with a holistic understanding of the environment, encompassing ecological systems, climate change, resource use, socio-economic drivers, and governance mechanisms that shape sustainability outcomes. Emphasis is placed on understanding the processes and drivers of environmental change, enabling learners to critically engage with complex, interconnected sustainability challenges across local, regional, and global contexts.

A distinctive feature of the programme is its strong focus on contemporary sustainability frameworks and practices, including net-zero pathways, circular economy principles, sustainability analytics, the economic dimensions of sustainability, lifecycle assessment (LCA), corporate sustainability strategies, and environmental regulatory frameworks. Learners are trained to apply data-driven, systems-based approaches to sustainability assessment, decision-making, and policy evaluation, in line with current international best practices.

The curriculum is application-oriented and professionally relevant, blending theoretical foundations with practical exposure through analytical tools, case studies, projects, and stakeholder-oriented learning. This programme is benchmarked against sustainability education standards and responds directly to emerging career pathways in sustainability consulting, corporate sustainability, environmental governance, climate action, and research. Graduates are equipped to engage with global sustainability agendas, contribute to organizational and policy-level transitions, and pursue advanced studies or professional roles in sustainability-focused sectors.

Overall, the programme aims to develop future-ready sustainability professionals and researchers capable of addressing environmental challenges through scientifically grounded, ethically informed, and socially responsive solutions, thereby contributing meaningfully to sustainable development at multiple scales.

## Programme Educational Objectives (PEOs)

PEO 1: Prepare graduates for impactful careers in sustainability-focused sectors, including policy, industry, research, consultancy, and civil society organizations.

PEO 2: Cultivate sustainability leaders who contribute to climate resilience, responsible resource management, and transformative environmental governance at multiple scales.

PEO 3: Encourage continuous professional growth, ethical practice, and innovation in advancing sustainable development and societal well-being.

## Program Outcomes



## Program Specific Outcomes (PSOs)

**PSO1:** Demonstrate a holistic and integrated understanding of the environment, including major environmental issues, their underlying processes and drivers, and interconnected ecological, social, and economic dimensions of sustainability at local, national, and global scales.

**PSO2:** Explain sustainability theories, frameworks, and best practices to assess and address environmental, social, and economic dimensions of sustainable development.

**PSO3:** Use analytical tools, data-driven approaches, and sustainability metrics to evaluate environmental performance, resource efficiency, and system-level trade-offs.

**PSO4:** Analyse net-zero pathways, circular economy principles, and low-carbon transitions and propose strategies for climate mitigation, adaptation, and resource optimization.

**PSO5:** Evaluate economic aspects, corporate sustainability strategies, and environmental regulatory frameworks to support responsible decision-making and sustainable organizational practices.

## Who should join?

Individuals who aim to build careers in sustainability consulting, environmental policy, climate change research, ESG analysis, biodiversity conservation, and sustainable development initiatives.

This programme is especially suited to those passionate about addressing global environmental challenges and creating practical solutions for a sustainable future.

## Program Structure

Sl No.	Course Name	Type	Level	Credits
<b>Semester 1</b>				
1	Environmental System and Global Change	P. Core	500	4
2	Data Analysis & Visualization for Sustainability	P. Core	500	4
3	ESG and Corporate Sustainability	P. Elective	500	3
4	Life Cycle Assessment and Circular Economy	P. Elective	500	3
5	Carbon Accounting and Net Zero Pathways	P. Elective	500	3
6	Energy Transitions and Sustainable Development	P. Elective	500	3
7	Environmental Impact Assessment	O Elective	500	3
8	Nature-based Solutions for Ecosystem Restoration and Climate Resilience	O Elective	500	3
9	Environmental Problem Solving	O. Elective	500	4
<b>Semester 2</b>				
1	Capstone Project/Thesis		500	20
2	SWAYAM Courses (optional)			4 (max)

## Minimum Credit Requirement for one-year PG Programmes

Core courses		Elective Courses	
Program Core	Capstone Project/ Thesis	Program Elective	Open Elective
8 Credits	20 Credits	8 Credits	4 Credits

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