

Curriculum Innovation for Sustainability

Integration of NEP-2020 in Postgraduate Environmental Programmes

The Department of Environmental Studies, University of Delhi, has undertaken a comprehensive revision and upgradation of its postgraduate programmes (M.Sc. Environmental Science and M.A. Environmental Studies) in alignment with the National Education Policy (NEP) 2020 and the Postgraduate Curricular Framework (PGCF-2024).

This reform represents a significant step toward embedding interdisciplinary, skill-based, and outcome-oriented sustainability education within the higher education ecosystem. The revised curriculum, approved by the Academic and Executive Councils, is being implemented from the academic session 2025–2026.

Key Features of Curriculum Transformation

1. Interdisciplinary and Integrated Learning Framework

The revised programmes adopt a systems-based and interdisciplinary approach, integrating natural sciences, social sciences, policy, and governance perspectives. Core courses such as:

- *Fundamentals of Environmental and Ecological Science*
- *Social, Environmental and Developmental Perspectives on Sustainability*
- *Integrated Natural Resource Governance for Sustainable Development*

ensure that students engage with sustainability as a multi-dimensional and interconnected domain

2. Alignment with NEP-2020 Pedagogical Vision

The curriculum reflects key principles of NEP-2020 by incorporating:

- Flexible credit structures and modular learning pathways
- Skill-based and experiential learning components
- Integration of research, fieldwork, and practical training
- Holistic and multidisciplinary education frameworks

The PG structure includes core courses (DSC), electives (DSE), and skill-based courses, ensuring both depth and flexibility in learning.

3. Strong Emphasis on Skill Development and Employability

Dedicated Skill-Based Courses (SBCs) such as *Methodologies for Environmental Studies* focus on:

- research design and data analysis
- environmental modelling and simulation
- statistical and analytical competencies

Additionally, field-based exercises, laboratory work, GIS applications, and stakeholder analysis enhance practical and employability-oriented skills .

4. Introduction of Contemporary and Emerging Themes

The curriculum incorporates a wide range of cutting-edge and globally relevant topics, including:

- climate change and resilience
- environmental health and epidemiology
- environmental governance and policy
- remote sensing and GIS applications
- sustainable finance and ESG reporting
- gender, ecology, and environmental justice
- ecological genomics and restoration ecology

These additions ensure that students are trained in emerging sustainability domains and future-ready competencies .

5. Experiential, Field-Based, and Applied Learning

The programmes integrate hands-on learning and field engagement through:

- environmental monitoring and assessment
- community-based studies and stakeholder mapping
- policy analysis and governance audits
- laboratory and simulation-based exercises

This approach strengthens the link between theoretical knowledge and real-world environmental problem-solving.

6. Research and Innovation Orientation

The PGCF structure enables progression from coursework to research, dissertation, and academic projects, fostering:

- independent research capabilities
- interdisciplinary inquiry
- innovation in sustainability solutions

The framework allows flexible pathways, including coursework, research, and entrepreneurship integration.

Contribution to Sustainable Development Goals (SDGs)

The revised curriculum directly contributes to multiple SDGs through its design and implementation:

- **SDG 4 – Quality Education:** Interdisciplinary, skill-based, and research-oriented learning
- **SDG 6 – Clean Water and Sanitation:** Courses on pollution, water management, and health
- **SDG 11 – Sustainable Cities and Communities:** Urban sustainability, governance, and planning
- **SDG 12 – Responsible Consumption and Production:** Circular economy, resource governance
- **SDG 13 – Climate Action:** Climate science, adaptation, and resilience
- **SDG 15 – Life on Land:** Biodiversity, ecosystems, and conservation
- **SDG 17 – Partnerships for the Goals:** Collaborative and participatory learning approaches

Overall Impact

This curriculum transformation strengthens the Department's role as a leader in sustainability education by:

- Enhancing environmental literacy and interdisciplinary competence
- Bridging science, policy, and society
- Promoting innovation, critical thinking, and problem-solving skills
- Preparing graduates for careers in academia, policy, industry, and sustainability practice

The revision of postgraduate programmes under NEP-2020 reflects a strategic and forward-looking academic reform, positioning the Department of Environmental Studies, University of Delhi, as a key contributor to sustainability-driven higher education and capacity building at national and global levels.