INTEGRAL UNIVERSITY
LUCKNOW - INDIA

A+ ACCREDITED BY NAAC

NABH ACCREDITED 820 BEDDED HOSPITAL | NABL ACCREDITED LABS | NBA & ICAR ACCREDITED PROGRAMS | QS I-GAUGE INDIAN UNIVERSITY RATING DIAMOND | 27

VALUE-ADDED COURSE ON

ECOSMART WASTE SOLUTIONS : PATHWAYS TO SUSTAINABLE MANAGEMENT

ORGANIZED BY

DEPARTMENT OF ENVIRONMENTAL SCIENCE

06th - 13th OCTOBER, 2025

3 GOOD HEALTH AND WELL-BEING

6 CLEAN WATER AND SANITATION

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

About the course

This course explores the interconnectedness between ecological principles and effective waste management practices. It aims to equip students with the knowledge and skills to address modern environmental challenges through sustainable solutions. The curriculum focuses on the causes and impacts of waste, methods of waste segregation, recycling, and treatment, as well as the significance of the 3R (Reduce, Reuse, Recycle) framework. Students will gain insight into how ecological thinking can inform waste management strategies that are environmentally sound, economically viable, and socially responsible. The course also emphasizes the role of individuals and communities in promoting sustainable practices and reducing ecological footprints.

Course Objectives:

- To offer a comprehensive understanding of contemporary environmental challenges.
- To highlight the importance of individual responsibility in environmental protection.
- To help students grasp the fundamentals of waste management and strategies for waste reduction.
- To introduce methods of waste disposal and treatment, emphasizing the 3R approach: Reduce, Reuse, and Recycle.

Course Outcomes (CO):

1. Understand key environmental issues related to waste generation and management.
2. Analyze the ecological impact of various types of waste on natural systems.
3. Demonstrate knowledge of sustainable waste management practices, including the 3R approach Reduce, Reuse, and Recycle.
4. Identify and assess various methods of waste disposal and treatment from an ecological standpoint.
5. Recognize the role of individuals, communities, and institutions in promoting sustainable waste practices.
6. Apply ecological principles to design and evaluate sustainable waste management solutions.
7. Develop critical thinking around policy, planning, and innovation in waste management to support environmental sustainability.

COURSE STRUCTURE: COURSE INTO 5 MODULES

Course Details:

Course Duration	:	30+ Hours
Registration fee	:	Rupee Nil
Batch size	:	Maximum 100 Participants.
Course Instruction Platform	:	Virtual (ILI-LMS)
Conduct of Teaching Sessions	:	Virtual (ILI-LMS)

Module 1 (6 hrs.)

Introduction to waste management- Environmental issues –ways of environmental pollution- need of waste management- State of municipal waste generation in the world- ways of dealing with municipal solid waste- sanitary land fill- recycling of plastic

Module 2 (6 hrs.)

Liquid waste management-hazardous and toxic waste-Municipal waste handling in Indian cities and towns, Chemical waste

Module 3 (6 hrs.)

Biomedical, Nuclear and E waste- environmental consequences of ship breaking-polluting industries of India- hazardous waste from other countries to India

Module 4 (6 hrs.)

Disposal of solid waste and management -3R system –new technologies in 3R -3R in home-3R in our country- ways of minimizing wastages- home-city-country- organic waste management waste prevention-Climate change and adaptation.

Module 5 (6 hrs.)

EcoSmart waste systems combine tech, design, and sustainability. Infrastructure should be modular, data-driven, and citizen-friendly. Sustainable treatment includes Waste-to-Energy (WTE), composting, and advanced recycling. Integration of AI, IoT and community input leads to efficient and scalable waste management.

JOB OPPORTUNITIES

Completing this course helps you get jobs like:

- Sustainability Officer / Waste Management Specialist Work with urban local bodies, smart cities missions, or private companies to design and implement eco-friendly waste collection, segregation, recycling, and composting systems.
- Environmental Consultant – Solid Waste & Circular Economy Advise industries, municipalities, or NGOs on how to reduce, reuse, and recycle waste using innovative, data-driven, and low-carbon solutions in line with sustainability goals.
- Project Manager – Zero Waste or Plastic-Free Initiatives Lead community or corporate-level programs targeting zero-waste campuses, plastic bans, or responsible consumption, often funded by government or CSR partners.
- Entrepreneur – Green Startups (Composting, Recycling, Bioplastics) Launch or work with startups focused on converting waste into value-added products like compost, bioenergy, bioplastics, or upcycled goods.
- Policy and Research Analyst – Urban Waste & Climate Resilience Join think tanks, research institutes, or UN/World Bank–supported missions to assess policies and design scalable solutions for sustainable waste governance.

ELIGIBILITY CRITERIA

- All B.Tech/M.Tech, BCA/MCA, B.Sc./M.Sc, BBA/MBA, Diploma, Pharma students, research scholars and faculties.
- Students from Science or Engineering background will have an added advantage.

*The course includes a total of 5 quizzes/assessment mandatory for all enrolled participants. Upon successful completion of the quizzes/assessment, each candidate shall receive a certificate.

Note- This is an online course. Lectures shall be conducted during Monday to Saturday between 6:00 to 8:00 (Holidays exempted)

CONVENER

Dr. AMBRINA SARDAR KHAN

HEAD

DEPARTMENT OF ENVIRONMENTAL SCIENCE

Integral University, Lucknow

*E-certificate will be issued to participants having 75% attendance and 50% marks in Quiz & Assignment

*Joining link will be shared on the registered email id one day before the commencement of the course

MODE ONLINE

Course Coordinator & Co-Convener

Dr. Mohd Kashif Khan, Dr. Mariya Hasnat

Phone No. 8840 02 9028 Email: hmariya@iul.ac.in

Registration Form Link : https://forms.gle/S4S6WfaEzeMrWVkj6

WhatsApp Group Link : https://chat.whatsapp.com/KE5NOCjnofXKvegvWmKwIM

INTEGRAL UNIVERSITY
LUCKNOW - INDIA

A+ ACCREDITED BY NAAC

NABH ACCREDITED 820 BEDDED HOSPITAL | NABL ACCREDITED LABS | NBA & ICAR ACCREDITED PROGRAMS | I-GAUGE DIAMOND | 27