

# ENVIRONMENTAL SCIENCE (NESV101)



**Prof. SHEEJA JAGADEVAN**

**Department of Environmental Science and Engineering  
IIT(ISM) DHANBAD**

# Faculties handling this course



**Prof. Sheeja Jagadevan**

Associate Professor

**Research Interests:**

Treatment of water and wastewater, Resource recovery from wastewater, Anti-microbial resistance



**Prof. Brijesh Mishra**

Associate Professor

**Research Interests:**

Water And Wastewater Treatment Water Quality Monitoring, Pollution Exposure And Human Health Risk Assessment.



**Prof. Vittal H**

Assistant Professor

**Research Interests:**

Hydroclimatology, Dynamics Of Indian Summer Monsoon Rainfall, Heatwaves, Drought, Vulnerability, Climate Risk



**Prof. Shubhasikha Das**

Assistant Professor

**Research Interests:**

High Entropy Materials for Wastewater Treatment

1	<p><b>Water &amp; Wastewater Pollution:</b> Introduction to Water Pollution, Characteristics/ Source/Types/Analysis of Water and Wastewater, Drinking Water and Basic Treatments Process, Industrial Wastewater and Basic Treatments Process, Municipal Wastewater and Basic Treatments Process, Prevention and Control of Water Pollution and Standards for Drinking Water and Effluents.</p> <p><b>Ecosystems:</b> Definition, Scope, and Importance of Ecosystems. Biogeochemical cycles, Eutrophication, Bioaccumulation and Biomagnification, ecosystem value, services and carrying capacity.</p> <p><b>Biodiversity:</b> Introduction, Definition, Value of biodiversity, Threats and conservation of biodiversity, Biodiversity Indices, National Biodiversity Act.</p>	SJ
2	<p><b>Global Atmospheric Change:</b> Atmospheric System, Atmospheric Circulations, Introduction to Climate and Weather, Global Energy Balance, Greenhouse Effect, and Radiative Forcing of Climate Change and Global Warming Potential.</p> <p><b>Natural Resources:</b> Water resources, Mineral Resources, Land Resources, Forest Resources, Energy Resources.</p> <p><b>Other Environmental Pollution:</b> Marine pollution, Nuclear Pollution, Thermal Pollution etc.</p>	VH
3	<p><b>Solid and e-Waste Management:</b> Characteristics and Sources of Solid Waste/e-Waste, Environmental Issues related to Solid Waste, Waste Management, Basics of Solid Waste Treatment Methods, Solid Waste Transformation through Thermochemical and Biological Methods and Different Disposal Techniques for e-Waste.</p> <p><b>Environmental Impact Assessment (EIA):</b> Introduction to Basic EIA Structure and Overview on Impacts of Air, Water, Biological and Socio-economical Aspects</p>	SD
4	<p><b>Air Pollution:</b> Types and Sources of Air Pollution, Effects of Air Pollution, Controlling Air Pollutants, Indoor Air Pollution, Ozone Depletion in the Stratosphere, Acid Deposition and Noise Pollution.</p> <p><b>Environmental Policy &amp; Legislation:</b> Environmental Protection act, Legal aspects Air Act, Water Act, Forest Act, Wildlife Act, Municipal Solid Waste Management and Handling Rules.</p>	BM

**TOTAL LECTURES: 42**

# Course assessment

- Exam Mode: Closed book
- Quiz 1: 10%
- Mid-sem: 30%
- Quiz 2: 10%
- End-sem: 50%