ID1200 Ecology and Environment

Description: This a two-credit course, with two instructional classes every week for 14 weeks.

Objective: To familiarize learners with the multi-dimensional nature of sustainability in connection with its real-world implications.

Course Content and Delivery: The course is divided into different modules that are taught by different instructors. The modules will be offered in the form of online recorded video lectures via IITM Centre for Digital Education (CODE), followed by live interaction sessions with the faculty (one per module). The modules and associated instructors per week are as follows:

Module	Module Name & Description	Name and details of the instructor
1	**Introduction to Sustainability** What is Sustainability? Sustainable Development Goals Roots of Sustainability The Critique of Technology How Do We View Sustainability? Sustainability Indices and Reporting What is not Sustainability?	Dr Satyanarayanan Seshadri
2	**Ecology: Fundamentals and Management - Part I** Climate Change: How? Why? Where? Climate Risks and Adaptation: Global & Indian Scenarios What is an Ecosystem? Land-based Ecosystems, Evolution, and Humans Ecosystem Services and Restoration	Dr Charuta Kulkarni
2	**Ecology: Fundamentals and Management - Part II** Marine Ecosystems and Climate Change The important role of oceans as life-supporting system Management of natural resources in a rapidly changing world	Dr Rahul Muralidharan / Dr Charuta Kulkarni

3	**Energy** Energy Demand & Supply Energy & Pollution Energy & Climate Change Energy & Sustainability	Dr Kaushal Kumar Jha
4	**Water Management** Impact of Climate Change Water-related risks Integrated water resources management Innovations in water resources extraction and management	Dr Venkatraman Srinivasan
5	**Waste Management** Redefining waste Solid waste management: past, present, and future 11Rs of circularity Waste management in business and ESG	Dr Indumathi Nambi
6	**Environmental Measurement and Life Cycle Assessment** Why is environmental/sustainability measurement important? What are sustainability measurement frameworks? What is Life Cycle Assessment (LCA)? And how it is done? Examples of LCA	Dr Ashwin Mahalingam
7	**Environmental Economics, Ethics & Policies** Environmental Impact Assessment (EIA): Why and How? EIA Rules and Major Trends Economics of Ecosystem Valuation EIA Core Values & Benefits Climate Policy Packages: Carbon Pricing & Neutrality	Dr Santosh Kumar Sahu

Course Evaluation
The course will be evaluated on the basis of an ONLINE final exam, offered at the end of the course. It will involve multiple-choice questions and will be offered via CODE Course Page.

Course Lead
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