

Branch Name:	Environment Engineering
Program Code:	ET212
Subject Title:	Environmental Legislation and Management
Subject Code:	2ET2120205T
Pre-requisite Subject:	Fundamentals of Environmental Systems

Course Objective:

- Student should acquire knowledge related to dynamics of environmental system and control the parameters causing deterioration of environment system
- To evaluate the Environmental audit scheme and its contribution to overall abatement of pollution.
- To assess the building from energy and resource conservation point of view.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								
					Theory (Marks)				Practical (Marks)				Total (Marks)
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
4	3	1	-	4	24	60	16	40	-	-	-	-	100

Subject Contents			
Sr. No	Topic	Total Hours	Weightage (%)
1	Environmental Legislations: Need for environmental legislation, National and state level legislation for prevention of air water and land pollution. Environmental Rules related Environmental Protection enacted in India. Functions of water and air pollution control boards. Difficulties encountered in enforcing legislation, Environmental pollution monitoring, Urban and Rural policy and management	12	32
2	Constitution of India and Environmental Protection: Provisions made in the Indian Constitution for Environmental Protection. Duty of citizens Indian Penal Code on Environmental Protection	08	18
3	Environmental Audit: Concept and Objectives, Comparison with Environmental Impact Assessment, Applicability of environmental audit to industries, roles and responsibilities of environmental auditor, Methodologies and benefits. Certification for Environmental Management System, International Standards For Environmental management, ISO – 14000, NABL accreditation environmental laboratories	06	14

4	Energy conservation in building: Energy efficient buildings, Green buildings, Intelligent Buildings, Various energy efficiency systems for buildings – LEEDS, GRIHA Rating system Energy conservation building code.	08	18
5	Clean Development Mechanism (CDM): Concept and objectives of CDM, methodology and procedures for CDM, Eligibility Criteria, UNFCCC, Role of UNFCC and Government of India. Role of National Green Tribunal (NGT) in cleaner development.	08	18

Reference Books:

1. Pollution Control Acts, Rules and Notification Thereunder : Published by central pollution control
2. Environmental Law and Policy In India by Armin Rosencranz, Shyam Diwan and Martha I Noble Tripathi publisher in association with The book review Literary Trust , New Delhi
3. Environmental Law by Bouwer - McGraw Hill
4. Indian Penal Code Ratanlal & Dhirajlal, 32nd edition, reprint 2014
5. The Indian Penal Code, 45 of 1860 (with New Amendments w.e.f. 3-2-2013) (Latest Bare Act): Universal Law Publishing Co.
6. ECBC code 2007 (Edition 2008 published by bureau of energy efficiency New Delhi)
7. Bureau of energy efficiency publications – Rating Systems.
8. TERI Publications rating systems – TERI Publications GRIHA Rating systems. LEEDS Publications.

List of Experiments:

Term work will comprise of assignment and exercises based on mass balances, Basic concepts of transport phenomena, chemical modeling, Eutrophication of lakes, Conventional pollutants in rivers, ground water contamination.

List of Open Source Software/learning website:

1. <https://nptel.ac.in/>

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO-1	To understand the provisions made in constitution related environmental issues	L-2
CLO-2	To evaluate the Environmental audit scheme and its contribution to overall abatement of pollution.	L-5
CLO-3	To assess the building from energy and resource conservation point of view.	L-4
CLO-4	To study cleaner development mechanisms and its implementation.	L-3

L1- Remember, L2- Understand, L3- Apply, L4- Analyze, L5- Evaluate, L6- Create

Mapping of CLOs with POs & PSOs

	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
Course Learning Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	M	M	M			M	M		M					M	M
CLO2	M	M	M			M	M	M	M					M	M
CLO3	M	M	M	M		M	M	M	M					M	M
CLO4	M	M	M	M		M	M	M	M					M	M

H: High, M: Medium, L: Low