



# SILVER OAK UNIVERSITY

College of Technology

Bachelor of Technology

Information Technology

Course Name: Environmental Science

Course Code: 1010033197

Semester:2nd

## Prerequisite:

Basic Knowledge of Engineering science, Environment

## Course Objective:

1. Inculcate environmental awareness as well as values in the students and translating them into pro-conservation actions. The Honorable Supreme Court of India has made it 'mandatory' to introduce a basic course on environment at the undergraduate level.

## Teaching Scheme:

Teaching Scheme				
L	T	P	Contact Hours	Credits
2	0	0	2	0

## Content:

Unit	Topics	Teaching Hours	Weightage %
1	<b>Introduction to Environment and Environmental Studies:</b> Definition and Components of Environment, Relationship between the different components of Environment, Man and Environment relationship, Impact of technology on Environment, Environmental Degradation, Multidisciplinary nature of the Environment studies, its scope and importance in the present-day Education System	5	4
2.	<b>Human Population and Environment:</b> Population Growth, World and Indian scenario, Population and Environmental Degradation, Population explosion – Causes, Effects and Control, Urbanization: Urban population growth and Environmental problems	4	8

3.	<p><b>Environmental Pollution:</b></p> <p>a.) <b>Water Pollution:</b> Introduction – Water Quality Standards, Sources of Water Pollution: Industrial, Agricultural, Municipal; Classification of water pollutants, Effects of water pollutants, Eutrophication</p> <p>b.) <b>Air Pollution:</b> Composition of air, Structure of atmosphere, Ambient Air Quality Standards, Classification of air pollutants, Sources of common air pollutants like PM, SO<sub>2</sub>, NO<sub>x</sub>, Natural &amp; Anthropogenic Sources, Effects of common air pollutants.</p> <p>c.) <b>Noise Pollution:</b> Introduction, Sound and Noise, Noise measurements, Causes and Effects, effects of industrialization on noise pollution,</p> <p>d.) <b>Solid Waste:</b> Generation and management, Biomedical Waste, e-waste, E-Waste generation system and Management</p> <p>e.) <b>Land Pollution:</b> Land uses, Land degradation: causes, effects and control, soil erosion.</p>	16	45
4.	<p><b>Global Environmental Issues</b></p> <p>Sustainable development, Climate change, Global warming and Greenhouse effect, Acid rain, Depletion of ozone layer, international steps for mitigating global change</p>	5	20
5.	<p><b>Basic Concept of Green Building and Smart Cities</b></p> <p>Green Building: Introduction, Objectives, Fundamental Principles, Benefits of green building, Examples of green Building, Smart Cities: Concept</p>	5	8
6.	<p><b>Energy Resources and Environmental Impact:</b></p> <p>Global and Indian energy demand scenario, Future projections, Conventional and Non-conventional sources of energy, Advantages and limitations, Utilization, Exploitation and related Environmental problems, Environmental implications of Non- conventional Energy Sources.</p>	5	15

### Course Outcomes:

Sr. No.	CO statement	Unit No
CO-1	To know about environments and its components.	1
CO-2	To understand population growth will eventually cause the environmental catosphere.	2
CO-3	To get aware about the various pollutions and its control methods	3
CO-4	To understand and analyse key global environmental issues	4
CO-5	To understand the concept of green buildings and smart cities and conventional and non-conventional sources of energy and global environmental issues.	5, 6

## Teaching & Learning Methodology:

Demonstration through ppt and videos and lectures

## Books Recommended:

1. Erach Bharucha, "Textbook of Environmental Studies for Undergraduate Courses", Second edition, Universities Press (India) Private Ltd, Hyderabad.
2. Prof Dr N S Varandani, Basics of Environmental Studies, LAP -Lambert Academic Publishing, Germany.
3. Anindita Basak, Environmental Studies, Drling Kindersley (India) Pvt. Ltd Pearson
4. Deeksha Dave & S S Kateva, Textbook of Environmental Studies, Cengage Publishers.
5. Daniel B Botkin & Edward A Keller, Environmental Sciences, John Wiley& Sons.
6. R. Rajagopalan, Environmental Studies, Oxford University Press
7. Benny Joseph, Environmental Studies TMH publishers
8. Dr. Suresh K Dhameja, Environmental Studies, 2007 , S K Kataria & Sons New Delhi
9. U K Khare Basics of Environmental Studies, 2011, Tata McGraw Hill

## List of Open-Source Software/learning website:

1. <https://silveroakuni.ac.in/video-lecture>

## CO-PO-PSO Matrix:

CO. No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO10	PO11	PO12	PSO1	PSO2
CO-1	3	2	2			2	2					2	2	2
CO-2	2	2	3	1	2	1	2	1		1		2	2	3
CO-3	2	2	3	2		2	2	1	1	2	2	3	2	2
CO-4	2	2	2	1	1		1			1	1	2	1	3
CO-5	2	2	2	1	2	1	1				1	1	3	2