

**PRE-REQUISITE:** F.Sc. or equivalent

**LEARNING OUTCOMES:**

- Students will learn about importance of Environmental Science as an academic discipline
- Students will learn about natural resources of earth
- Students will understand the relationships between different components of environment
- They will learn about sources of water, air, land and soil and their preventive measures

**CONTENTS**

**Unit-1: Importance of environmental science and different aspects of environment**

- 1.1. History, Nature and scope of Environmental Science and its contribution to society
- 1.2. Different aspects of environment: Physical, Ecological, Socio-economic, Ethical and Philosophical
- 1.3. Human environment and its problems
- 1.4. Across the globe-environmental issues, national and regional

**Unit-II: Types of environmental pollution**

- 2.1. Environmental pollution
- 2.2. Air Pollution (outdoor and indoor)
- 2.3. Global Warming, Ozone Depletion; Acid Rain, Solutions,
- 2.4. Water Pollution; Rivers, Lakes, Groundwater, Solutions,
- 2.5. Water use and management
- 2.6. Soil Pollution, Fertilizers, Pesticides and Pest Control, Solutions
- 2.7. Solid and Hazardous Waste, Solutions
- 2.8. Noise and Noise pollution
- 2.9. Environment of Cities, Light pollution and visual pollution, Solutions
- 2.10. Global Problems of Deforestation and loss of Biodiversity, Mangroves and their disappearance

**Unit-III: Environmental education and sustainable development**

- 3.1. Environmental education
- 3.2. Sustainable Development, Environmental challenges for sustainable development
- 3.3. Population Dynamics and Control, Current and future trends in population growth
- 3.4. Development in industry and agriculture
- 3.5. Urbanization, poverty and resource depletion

**Unit-IV: Food and alternate energy sources**

- 4.1. Food Resources and World Hunger
- 4.2. Energy concepts in environment
- 4.3. Fossil Fuels, Alternate Energy Sources and Environment
- 4.4. Nuclear energy and Environment

**TEACHING – LEARNING STRATEGIES**

- Lecture based examination
- Presentation/seminars
- Class discussion
- Quizzes

## ASSIGNMENTS – TYPE AND NUMBER WITH CALENDAR

It is continuous assessment. The weightage of Assignments will be 25% before and after midterm assessment. It includes:

- classroom participation,
- attendance, assignments and presentation,
- homework
- attitude and behavior,
- hands-on-activities,
- short tests, quizzes etc.

### ASSESSMENT AND EXAMINATIONS:

Sr. No.	Elements	Weightage	Details
1.	Mid Term Assessment	35%	It takes place at the mid-point of the semester
2.	Formative Assessment	25%	It is continuous assessment. It includes: classroom participation, attendance, assignments and presentation, homework, attitude and behavior, hands-on-activities, short tests, quizzes etc.
3.	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.

### RECOMMENDED TEXT BOOKS / SUGGESTED READINGS

1. Liboiron, M. (2021). *Pollution is colonialism*. Duke University Press.
2. Harper, C. L., & Snowden, M. (2017). *Environment and society: Human perspectives on environmental issues*. Routledge.
3. McKinney, M. L., Schoch, R. M., Yonavjak, L., & Mincy, G. (2017). *Environmental Science: Systems and Solutions: Systems and Solutions*. Jones & Bartlett Learning.
4. Miller, G. T., & Spoolman, S. (2015). *Living in the environment: concepts, connections, and solutions*. Brooks/Cole.
5. Miller, G. T., & Spoolman, S. (2015). *Environmental science*. Cengage Learning.
6. Botkin, D.B. (2014). *Environmental Science: Earth as a Living Planet*. John Wiley & Sons.
7. Harris, F. (Ed.). (2012). *Global environmental issues*. John Wiley & Sons.
8. Botkin, D. B., & Keller, E. A. (2010). *Environmental science: Earth as a living planet*. Wiley Global Education.

**Further Reading:** As suggested by the Instructor.