Course Type	Course Code	Name of Course	L	T	P	Credit
DE	NGLD505	Environmental Geology	3	0	0	3

Course Objective

The primary objective of the course is to introduce the basic tenants of environmental geology, sources of pollutants from natural as well as anthropogenic sources. The subject deals with the adverse effects on the environments and the role of geologist in the remedial measures for environmental contaminants and its safe disposal.

Learning Outcomes

Upon completion of the course, students will be able to understand:

- Understand the different aspects of environmental problems in the natural system including the different sources i.e. geogenic and anthropogenic sources.
- Origin and transportation mechanism of the pollutants and their impacts on the society.
- Know the possible remedial methods as well as disposal of different waste

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1.	**Introduction to Environmental Geology:** Fundamental concepts of environmental geology. Changes in the environment caused by anthropogenic processes.	6	Understanding of different aspects of environmental geology and environmental changes.
2.	**Sources of Pollutants:** Sources of Inorganic and organic contaminants. Drinking water standards. Surface and ground water pollution. Geochemistry of toxic elements in natural waters. Introduction to Medical Geology:	10	Sources of pollutants i.e. geogenic and anthropogenic sources., medical geology.
3.	**Earth Processes and impacts**: Study of surface geological processes with reference to their impact on environment.	8	Surface geological processes causing environmental changes.
4.	**Exploration/Mining and Impacts on Environment:** Environmental problems connected with exploitation of minerals and energy resources. Acid mine drainage. Land use and land degradation due to mining. Soils, erosion and conservation	8	Exploration and mining related environmental problems.
5.	**Environmental Management**: Geological solutions to environmental problems. Role of geology in waste disposal, Global warming, Climate change and Mitigation. Environmental planning, management and economics (EMP and EIA).	10	Environmental management including the possible remediation.
	Total	42	

Text Books:

1. Montgomery, C.W. (1989) Environmental Geology (II Edition). Wm. C Brown Publ.
2. Valdiya, K S (1987) Environmental Geology. Indian Context. Tata McGraw Hill Publ.

Reference Books:

1. Keller, E A. (2012) Introduction to Environmental Geology (5h Edition). Prentice Hall.