

AG-401 Environmental Geology Credit Hours 2+1

Prerequisite: AG-307

Learning Outcomes

This course is designed to acquire the knowledge about the role of geology in the environmental degradation. This will help the students to learn how the various geological processes and related human activities are involved in contaminating our ecosystem.

Course Contents

Introduction to Environmental geology. Management of natural resources. Air pollution and global climatic changes, environmental controls for erosion, desertification and coastal degradation. Geological hazards such as floods, landslides, earthquakes, volcanoes, glaciers and shoreline processes, their remedial measures. Environmental impact of mining, dams, reservoirs, highways, their assessment and controls. Cleaner sources of energy.

Industrial pollution, waste disposal, groundwater contaminations, river lake and marine pollution and their impact on human health. Geological aspects of human health. Trace elements and health hazards.

Lab.

Sampling and analysis of air, water, soil and rocks.

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.

Books Recommended

1. Environmental Geology by Keller, E.A., latest Ed., Chales E. Merrill Publishing Co.
2. Earthquake Risk and Damage by Liu, B.C., 1981, Westview.
3. Environmental Geology by Montgomery, C.W., 2005, McGraw Hill.
4. Radio propagation and remote Sensing of the Environment by Armanel, N.A., Polyakove, V.M, 2005, CRC Press.