

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

- This course will provide information regarding Environmental Geology to the students in field.
- The students will learn about the different aspects of Geology, Biodiversity.
- They will have the knowledge about the Dams and Meteorology.
- The students will be able to identify rocks and minerals in the field.

CONTENTS**Unit-I: Environmental Geology**

- 1.1. Identification of minerals and Igneous, Sedimentary and Metamorphic Rocks at Natural Formations in Salt Range, Islamabad, Galiat, Abbottabad and Mansehra Areas.
- 1.2. Sedimentary Structure, mainly Bedding, Cross Bedding, Ripple Marks, Fossils, Mud Cracks, Graded Bedding.
- 1.3. Color, Fabric, Texture OF Rocks, Identification of Joints, Faults and Cleavage.
- 1.4. A visit to Natural History Museum, Islamabad.
- 1.5. A visit to Bestway Cement Factory, Chakwal.
- 1.6. A visit to Dams
- 1.7. Study of Geologic Hazards, Visit to some Seismic Stations.
- 1.8. Visit to some Petroleum Drilling/Petroleum Sites.

Unit-II: Environmental Biology

- 2.1. Study of Vegetation, change in vegetation with altitudinal changes.
- 2.2. Study of Role of Vegetation in Controlling Soil Erosion
- 2.3. Study of Conditions Supporting Gymnosperm Growth.
- 2.4. Study of Animal Diversity of the visited Areas.
- 2.5. Study of Fauna and Flora of the visited Areas

Unit-III: Hydrological Measurements

- 3.1. Study of Dams
- 3.2. Study of Reservoirs
- 3.3. Study of Wetlands
- 3.4. Flow Measurements
- 3.5. Weather Stations
- 3.6. Seepage Control through Dams and Foundations, Power Houses, Spillways.

RECOMMENDED TEXT BOOKS / SUGGESTED READINGS

- As suggested by the Instructor