

**GC. 116 Introduction to Environmental Science****GC-116 INTRODUCTION TO ENVIRONMENTAL SCIENCE 3 (3-0)****BS Geography 4 Years Programme, University of the Punjab, Lahore****Introduction**

Environmental Science is an inter and multi-disciplinary field of knowledge developed as a decision support science with convergence of a wide range of disciplines of natural, social, computational and management and sciences with philosophy and humanities. Therefore, its scope is as wide as the ambit of environment itself, which justifies its importance for students of Geography.

**Teaching Objectives**

The overarching aim of this course is to value addition in the scheme of studies of BS Geography programme. Whereas specific objectives are to:

1. introduce students with basic concepts of environmental science and how it developed as an academic discipline important to understand environmental issues in geographical context;
2. enable students to appreciate the importance environment as life support system on earth and providing sustenance to human life; and
3. familiarize students with current challenges of sustainable development at local and global level.

**Learning Outcome**

- a) Learners become aware of importance of environment, their interactions with environment and impacts of human activities on environment.
- b) Learners acquired skills to reduce Students them with the development of of Env. Sci history.
- c) To aware them with basic environmental issues.

**Course Outline**

- A) Introduction to environment**, its types and scope; major components of environment: Natural (Ecological), Socio-economic and technological components; their relationships with various environmental factors.
- B) Evolution of Environmental Science** and Role of Geography in Environmental Studies.
- C) Ecosystem**: structure, functions and types of eco-system, ecosystem services
- D) Material Cycles in natural environment**: (Hydrological cycle, Carbon cycle, Nitrogen cycle, and Lithospheric cycles).

- E) Main school of thought in Environmental Geography** (cognitive behaviorisms; physical determinism; Possibilism; Stop-and-go determinism).
- F) The concept of environmental resources.** Definition of resources in geography; Types of environmental resources. Human impacts on natural resources.
- G) Major environmental challenges for sustainable development:**
- **Anthropogenic driven environmental challenges**
    - 1) Deforestation
    - 2) Water pollution and it causes
    - 3) Air pollution and its causes
  - **Quasi-natural / technology driven environmental challenges**
    - 1) Global warming
    - 2) Climate change

**Recommended Books:**

1. Environmental Science: Earth as a Living Planet, Botkin, D.B & Keller, E.A. 6<sup>th</sup> Ed. John Wiley & Sons, 2007.
2. Environmental Science: systems and solutions, McKinney, M.L., Schoch, R.M. & Yonavjak, L. 4<sup>th</sup> Ed. Jones & Bartlett Publishers, 2007
3. Environmental Science: Toward a Sustainable Future, Wright, R.T. & Nebel, B.J. 10<sup>th</sup> Ed. Pearson Educational, 2007.
4. Environmental Science: working with the Earth. Miller, G., Thomson Learning, 2002.