Course Code	GEOG-314	Credit hours	03
Course Title	**Introduction to Environmental Science**		

COURSE INTRODUCTION

This course offers a foundational understanding of environmental science, exploring the relationships between humans and the natural environment. Students will study the basic principles of ecology, earth systems, biodiversity, energy flow, and natural resource management. The course also examines contemporary environmental issues such as climate change, pollution, deforestation, and sustainability. Emphasis is placed on scientific methods, critical thinking, and the role of environmental policy and ethics in addressing ecological challenges. Through lectures, discussions, and practical activities, students will gain the knowledge and tools needed to make informed decisions and take responsible actions concerning the environment.

LEARNING OUTCOMES

By the end of this course the students will learn:

The importance of Environmental Science as an academic discipline

About natural renewable and non-renewable resources of earth

To understand the basic components and processes of environment, analyze human and environment interactions

To evaluate the sources and consequences of water, air, land and soil pollution and their preventive measures

COURSE CONTENTS

Unit-I: Importance of environmental science and different aspects of environment

History, Nature and scope of Environmental Science and its contribution to society

Different aspects of environment: Physical, Ecological, Socio-economic, Ethical and Philosophical

Human environment and its problems

Across the globe-environmental issues, national and regional

Unit-II: Types of environmental pollution

Environmental pollution

Air Pollution (outdoor and indoor)

Global Warming, Ozone Depletion; Acid Rain, Solutions,

Water Pollution; Rivers, Lakes, Groundwater, Solutions,

Water use and management

Soil Pollution, Fertilizers, Pesticides and Pest Control, Solutions

Solid and Hazardous Waste, Solutions

Noise and Noise pollution

Environment of Cities, Light pollution and visual pollution, Solutions

Global Problems of Deforestation and loss of Biodiversity, Mangroves and their disappearance

Unit--III: Environmental education and sustainable development

Environmental education

Sustainable Development, Environmental challenges for sustainable development

Population Dynamics and Control, Current and future trends in population growth

Development in industry and agriculture

Urbanization, poverty and resource depletion

Unit--1V: Food and alternate energy sources

Food Resources and World Hunger

Energy concepts in environment

Fossil Fuels, Alternate Energy Sources and Environment

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.

TEXT BOOKS AND READING MATERIAL

Liboiron, M. (2021). *Pollution is colonialism*. Duke University Press.

Harper, C. L., & Snowden, M. (2017). *Environment and society: Human perspectives on environmental issues*. Routledge.

McKinney, M. L., Schoch, R. M., Yonavjak, L., & Mincy, G. (2017). *Environmental Science: Systems and Solutions: Systems and Solutions*. Jones & Bartlett Learning.

Miller, G. T., & Spoolman, S. (2015). *Living in the environment: concepts, connections, and solutions*. Brooks/Cole.

Miller, G. T., & Spoolman, S. (2015). *Environmental science*. Cengage Learning.

Botkin, D.B. (2014). *Environmental Science: Earth as a Living Planet.* John Wiley & Sons.

Harris, F. (Ed.). (2012). *Global environmental issues*. John Wiley & Sons.

Botkin, D. B., & Keller, E. A. (2010). *Environmental science: Earth as a living planet*. Wiley Global Education.

Further Reading: As suggested by the Instructor.