

Introduction to Physical Geography

COURSE CODE: GEOG-103

Course Brief:

This course provides an opportunity for understanding part of the complex physical and biological environment in which human beings live. It introduces basic processes that influence the characteristics and spatial relationships of climate, water cycle and vegetation. The first part of the course examines the interactions of solar energy with the Earth's atmosphere and surface, and how atmospheric circulation, precipitation, and weather systems are generated. The second part of the course covers the cycling of water and other Earth resources within the living zone - the biosphere. It focuses on how these cycles, together with the flows of energy, influence the nature and distribution of ecosystems and vegetation.

Course Learning Objectives:

This course provides patterns of human activities that are in response to and influence environmental processes and are asked to observe and interpret aspects of their local environment considering what they have learned.

I. Introduction to Physical Geography

- i. Scope and Branches of Physical Geography
- ii. Relationship with other branches of knowledge

II. The Earth and its Origin

- i. The Solar system and the Earth
- ii. Theories about the Earth's Origin, shape and size, rotation and revolution, composition and structure, distribution of land and water

III. Lithosphere

- i. Internal Structure of the Earth
- ii. Rocks –Their Origin, Formation and Types
- iii. Plate Tectonics
- iv. Mountain Building
- v. Geomorphic Processes
- vi. Earthquakes
- vii. Volcanic activity
- viii. Weathering, Erosion and Deposition
- ix. Landforms produced by Surface Water, Ground Water, Wind and Glaciers

IV. Atmosphere

- i. Composition and Structure of Atmosphere
- ii. Atmospheric Temperature
- iii. Air pressure and Winds
- iv. Air masses and Fronts (classification, distribution and associated weather)
- v. Cyclones and Weather Disturbances.

- vi. Hydrological Cycle
- vii. Atmospheric Moisture and Precipitation
- viii. Climatic Classification: Koppen's classification
- ix. Atmospheric Pollution.

V. Hydrosphere

- i. Configuration of Ocean floor
- ii. Ocean Deposits
- iii. Composition, Temperature, and Salinity of Ocean Water,
- iv. Movements of the Ocean Water: Waves, Currents and Tides.

VI. Biosphere

- i. Forest Biomes
- ii. Major forest types

Books Recommended:

- Strahler, A.N. (2004) Modern Physical Geography. New York, John Wiley & Sons.
- Christopherson, R.W. (2000). Geo-systems, USA, Prentice-Hall, Inc.
- Gabler, R.E., Sager, R.J. & Wise, D.L (1997) Essentials of Physical Geography, New York, 4th Edition. Saunders College Publishing.
- Scott, R.C. (1996) Introduction to Physical Geography, New York, West Publishing Co.
- Miller, G.T (1996) Living in the Environment, Principles, Connections and Solutions, 9th Edition, Wadsworth.
- Thurman, H.V. & Mexrill (1996) "Essentials of Oceanography" Menson, London.
- Monkhouse, F.J. (1996). Principles of Physical Geography, London Hodder & Stoughton.
- De Blij, H. J and Muller, P.O. (1996). Physical Geography of the global Environment, USA, John Wiley and Sons Inc.
- Diwan A.P. & D.K. Arora (1995) "Origin of the Ocean" Anmol Publisher, Delhi.
- Taylor, J. (1993) Integral Physical Geography, London Longman
- Mcuveen (1992) "Fundamentals of Weather and climate" Prentice Hall New Jersey.
- Small, R. J. (1989), Geomorphology and Hydrology, London, Longman.
- Thompson, R.D. et. al (1986). Process in Physical Geography, London, Longman.
- Miller, E.W. (1985) Physical Geography, Columbus, Charles E. Merrill
- King, CAM (1980) Physical Geography, Oxford, Basil Blackwell.
- Thornbury, W.D. (1969) "Principles of Geomorphology" John Willy & Sons. New York.
- Kendrew (1961): Climates of the continents. Longman London/New York.