# GEOG-602 BIO-GEOGRAPHY

**Course Description:**

This course provides an overview of Human geography examining the basic principles and development, branches of human geography and school. Human races of the world. Urban morphology, function, classification of town.

**Learning Objectives:**

1. Understand the basic principles and concepts of Human Geography.
2. Analyse Human Resource Development and Culture and society.
3. Evaluate the role of human and settlement.

## BLOCK 1: INTRODUCTION TO BIOGEOGRAPHY

1. Definition and scope of biogeography, Historical development of bio-geographic studies
2. Key concepts: biodiversity, endemism
3. Ecological Biogeography, Environmental gradients and species distributions
4. Island biogeography theory, Ecological niche modelling

## BLOCK 2: DISPERSAL AND COLONIZATION

5. Evolutionary biogeography: vicariance vs. dispersal, Historical bio-geographic methods: phylogenetics, molecular dating, Bio-geographic realms and regions

6. Modes of dispersal: wind, water, migration, human-mediated, Colonization patterns and processes, Bio-geographic barriers and corridors, Community Assembly: Species interactions and community composition, Succession and ecosystem development, Bio-geographic patterns of diversity

7. Biogeography of Climate Change, Climate change impacts on species distributions, Range shifts and bio-geographic responses, Conservation implications and adaptation strategies

## BLOCK 3: ANTHROPOGENIC BIO-GEOGRAPHY AND CONSERVATION

8. Human impacts on bio-geographic patterns, Habitat fragmentation and landscape connectivity

9. Invasive species and their bio-geographic consequences

10. Conservation biogeography: prioritization, reserves design, Endemism, and hotspots of biodiversity

**BLOCK 4: APPLIED BIOGEOGRAPHY**

11. Bio-geographic tools and techniques: GIS, remote sensing

12. Field methods in biogeography

13. Integrating biogeography with other disciplines (e.g., ecology, climatology)

**Texts/Resources:**

"Biogeography: An Ecological and Evolutionary Approach" by C. Barry Cox et al.
"Principles of Conservation Biogeography" edited by Richard J. Ladle and Robert J. Whittaker
Selected research articles and case studies from scientific journals
Online resources and databases for bio-geographic data analysis.