

15BPLN-506: Sustainable Urban Development

INTENT:

The basic intent of the course is to introduce sustainability concept in details along with relevance of sustainability and application of sustainability concepts in planning.

COURSE CONTENT:

Module 1: Concept and Issues

Changing perspectives in man-environment relationship with focus on issues of population, urbanization, resource depletion and pollution; Limits to growth vis-a-vis sustainable economy; Growth and environmental imperatives of developing vs. developed countries; Definitions, concepts and parameters in sustainable development with particular reference to Brundtland Commission, Agenda 21, Eco-City approach, etc;

Module 2: Methods and Techniques

Application of ecological principles in sustainability: energy and resource cycles, food webs, ecological pyramids and evolution and succession of natural ecosystems; Carrying Capacity based planning: concept, parameters and indicator measures, models and case studies in urban and regional development; Environmental impact and strategic environmental assessment for urban areas; Ecological footprint analysis of cities; Sustainable lifestyle assessment and behavioural modifications at household levels.

Module 3: Land, and Energy Resources

Land capability and suitability analysis in location and planning of urban land uses; Implications of urban form, density, land use pattern and transportation system in land and energy conservation.

Module 4: Role of Water, Air Quality & Solid Waste Management

Urban interference in hydrological cycle, with particular reference to water pollution, water resources, drainage and natural ecosystems; Urban water treatment, recycling and harvesting; Use of non-conventional energy sources in urban development; Sources, types and effects of air pollution and solid waste disposal in cavities, urban industrial processes and land use and transportation implications in air and solid waste pollution; Norms, standards, laws, organizations and policies in urban air quality control and solid waste management; Examples of best practices.

References:

1. *Beatley, Timothy and Kristy Manning* , “*The Ecology of Place: Planning for Environment, Economy, and Community*”, 1997 Washington, D.C. Island Press
2. *Cedric Pugh* , “*Sustainable Cities in developing Countries*”, 2000 London, UK. Earthscan

3. *John Tillman Lyle , “Regenerative design for Sustainable Development”, 1994. New York, John Willy & Sons*
4. *Joe Ravetz , “City-Region 2020”,2000 London, UK, Earthscan*
5. *Stephen M. Wheeler; Sustainable Urban Development Reader (Routledge Urban Reader Series) 2nd Edition*