

# GUJARAT TECHNOLOGICAL UNIVERSITY

Subject Name: Sustainable Urban Development

SUBJECT CODE: 1055506

B.PLAN 5<sup>th</sup> SEMESTER

## Objectives:

1. To provide basic understanding of the concepts of Sustainable Development with focus on environment and its conservation.
2. To understand the use of environmental management concept in different urban planning techniques.
3. To make understand the various sources of environmental pollution, introduction to environmental legislation and institutional structure.

## Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	Field work(T)	P		Theory Marks		Practical Marks		
				ESE(E)	PA (M)	PA (V)	PA(I)	
3	0	0	3	50	50	--	--	100

L- Lectures; T- Tutorial/Teacher Guided Student Activity/Field work; P- Practical; C- Credit;  
ESE- End Semester Examination; PA- Progressive Assessment.

## Content:

Sr. No.	Content	Total Hrs	% Weightag
<b>Unit -1</b>	Concepts and Issues Changing perspectives in man-environment relationship with focus on issues of population, urbanization, resource depletion and pollution; limits to growth visa-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.	6	12.5
<b>Unit -2</b>	Methods and Techniques Application of ecological principles in sustainability: evolution and succession of natural ecosystems Carrying Capacity based planning: concept, parameters and indicator measures, Environmental Impact and Strategic Environmental Assessment for urban areas; Ecological Footprint Analysis of cities; Sustainable Lifestyle Assessment and behavioural modifications at household levels.	12	25
<b>Unit - 3</b>	Land, Water and Energy Resources	9	18.75

	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,		
<b>Unit - 4</b>	<b>Role of Water:</b> 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 nonconventional energy sources in urban development.  Norms, standards, laws, organizations and policies in water resources management	9	18.75
<b>Unit - 5</b>	<b>Air Quality and Solid Waste Management for Sustainable Urban Development</b> 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.	12	25
	<b>Total no. of hours</b>	48	100

**Assessment /Evaluation Criteria:**

Assignment 1: 5 %

Assignment 2: 5 %

Midterm Exam: 20 %

Attendance and class participation: 20 %

Final Exam: 50%

Lecture Hours per Week	3
Total Marks	100
Internal Assessment	50
Examination	50

**Reference Books:**

S. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1.	V. K. Ahluwalia	Environmental Studies Basic Concepts	2013	TERI
2.	Bharucha, Erach.	Textbook of environmental studies for undergraduate courses	2015	University Press (India) pvt. ltd. Hyderabad
3.	Larry W, Canter	Environmental impact assessment	1977	Berkley,P.A,New York,Tokyo etc McGraw Hill Pub.

	Adrian X. Esparza, Guy Mcpherson	The Planner's Guide to Natural Resource Conservation: The Science of Land Development beyond the Metropolitan Fringe	1st Edition	Springer
	J S Singh, S P Singh, S R Gupta	Ecology, Environment and resource Conservation	2008	Anamaya Publishers

**Course Outcome:**

Deliverables in terms of term paper/ article review/ synopsis/ posters/presentations etc

**ACTIVE LEARNING ASSIGNMENTS:** Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide.