

1153CE110 (VTUR15)	SUSTAINABLE CITIES	L	T	P	C
		3	0	6	6

Major Topics/ Themes (Max 6)

1. Sustainable materials
2. Smart City
3. Smart Solutions
4. Green buildings

Self - Learning: Types of buildings

Instructional Scheme:

1. Sustainable Materials

In Class Activities	Embodied Energy and operational energy in buildings	Cement and Concrete	Bricks and mortar	Net zero building	Building Integrated Photo Voltaic	Green performance rating
Out Class Activities	Hands on session - Building Materials	Hands on session - Building Materials	Conventional Concrete cube casting	Green Concrete cube casting	BIPV for campus buildings	Green performance of campus buildings

2. Smart City

In Class Activities	Definition Objectives & Features	Smart city selection process	Smart solutions	India's Smart City Mission	Proposed Reference Framework	Issues and Challenges
Out Class Activities	Video Demonstration	Assignment 1	Video Demonstration	Literature Study	Chart Preparation 1	Literature Study

3. Smart Solutions

In Class Activities	Smart city development strategy	Urban Street design	Road safety elements	Integrated waste management	Environmental Monitoring	Information & Communication
Out Class Activities	Problem identification	Preparation of city layout	Preparation of building plan/layout	Material acquisition	Model fabrication	Model Demonstration

4. Green Buildings

In Class Activities	Green infrastructure glossary	Revolution of urban forests	Living facades	Evolution of high rise forest buildings	Technical drawings and tools	Case studies
Out Class Activities	Video Demonstration	Assignment 2	Video Demonstration	Literature Study	Chart Preparation 2	Literature Study

Semester Plan:

↑ Weeks	Week 15	Project – Model Making / Fabrication								
	Week 14	Project – Model Making / Fabrication								
	Week 13	Project – Model Making / Fabrication								
	Week 12	Project – Model Making / Fabrication								
	Week 11	Project – Model Making / Fabrication								
	Week 10	4-T				Project - Design				
	Week 9	4-T				Project – Design				
	Week 8	3-T				3-P			3-T	
	Week 7	3-T				3-P			3-T	
	Week 6	3-T				3-P			3-T	
	Week 5	2-T				Project – Planning				
	Week 4	2-T				Project - Planning				
	Week 3	1-T				1-P			1-T	
	Week 2	1-T				1-P			1-T	
	Week 1	1-T				1-P			1-T	
	1	2	3	4	5	6	7	8	9	

Hours →

Assessments:

S. No	Major Topics / Themes	Type of Assessment	Weightage	Week No
1	Sustainable Materials	L+P	15	4
2	Smart City	L	10	6
3	Smart Solutions	L+P	15	10
4	Green Buildings	L	10	12
5	Project	P	50	15

Project:

Plan, design and fabrication of a scalable model for 200 sq.m adapting any of the sustainable feature incorporated in planning / material selection / smart solutions.	Type of Assessment: Project
	Weightage: 50
	Week No: 15