



School of Planning and Architecture Vijayawada
(An institute of National Importance under the Ministry of Education, Govt. of India)
S.No. 4/4, ITI Road, Vijayawada – 520008, Andhra Pradesh, India

Course: **Elective I: Resource Conservation and Efficiency** Class: **I Year I Sem. M.Arch (SA), 2025-26 A.Y** Section: -
Instructors: **Dr. Amitava Sarkar** Contact Periods/week: **03 (55 min. each)** Timetable: **Monday, 9:00 – 11.45 AM**
Internal Assessment Marks: **50** External Theory Exam: **50** Total Marks: **100**
Attendance: **75% Min.** Min. Passing Marks: **As per the Academic Ordinance and SPAV Regulations**

Objective

To sensitive and equip the student with understanding on various natural resources, assessment and conservation techniques.

Outcomes

1. Students shall learn about the resource conservation concepts, ideas and strategies that are applicable for designing efficient buildings.
2. Make appropriate choices for further studies in related domains of education.

S.No.	Week No.	TOPIC OF CLASS LECTURE & DISCUSSION	CLASS ACTIVITY & ASSIGNMENTS
1	25.08.2025 Week 1	Introduction to the Course ➤ Energy Efficiency and Energy Conservation ➤ Recourse Consumption	Lecture and Group discussion
2	01.09.2025 Week 2	Energy Efficiency and Energy Conservation ➤ Distribution of Energy use in India ➤ Factors affecting the Energy use in Buildings ➤ Pre-Building Stage, Construction Stage & Post Occupancy stages	Assignment-I on “Case Studies of Environmental issues in cities”
3	08.09.2025 Week 3	Types of natural resources ➤ Including human, material, economic etc. ➤ Need for conservation of resources.	Lecture and Discussion
4	15.09.2025 Week 4	Field Work / Case Study visits	
5	22.09.2025 Week 5	Types of natural resources ➤ Carbon footprint assessment. ➤ Concept of ecological capacity etc.	Lecture and Discussion
6	29.09.2025 Week 6	Mid Semester Assessment	Class Test
7	06.10.2025 Week 7	Overview of Environmental Sciences ➤ Pertaining to the above, including assessments, mapping tools and methods ➤ Human interventions and ecosystem disturbances	Lecture and Discussion
8	13.10.2025 Week 8	Overview of Environmental Sciences ➤ Impact of human activities on natural resources, biodiversity and changing ecosystem cycles etc. ➤ Local, regional and global impacts on the Environment.	Lecture and Discussion
9	20.10.2025 Week 9	Impacts on Environments ➤ Introduction to wasteland creation & barren land formation, soil erosion at regional level ➤ Kyoto Protocol, Paris Climate Change Agreement	Lecture and Discussion Submission of Assignment-I
10	27.10.2025 Week 10	Impacts on Environments ➤ India's climate change policy and stand ➤ Efficient utilization of recourses with case studies.	Assignment-II on “Case Studies of Zero Energy Buildings”
11	03.11.2025 Week 11	Impacts of Urbanization on ➤ Ecology and Environment, Water management, waste and land management system.	Lecture and Discussion

S.No.	Week No.	TOPIC OF CLASS LECTURE & DISCUSSION	CLASS ACTIVITY & ASSIGNMENTS
12	10.11.2025 Week 12	Application of GIS in Resource Conservation	Special Lecture and - Demonstration in GIS Lab
13	17.11.2025 Week 13	Impacts of Urbanization on ➤ Extreme Climate, Zero Energy Buildings, Carbon neutrality.	Lecture and Discussion
14	24.11.2025 Week 14	Lecture, revision and feedback on the topics covered	Submission of Assignment-II Lecture and Discussion
15	01.12.2025 Week 15	Lecture, revision and feedback on the topics covered	Lecture and Discussion

Tentative break-up of Internal Assessment Marks:

S.No.	Categories of Evaluation*	Marks
1	Assignment-I	10
2	Mid Semester Test	20
3	Assignment-II	20
	Total	50

* The Marks allotted against each category are tentative. Categories of evaluation are only indicative and may increase or decrease.

Reference Books:

1. P.S. Ramakrishan (2002) Ecology and Sustainable Development: Working with Knowledge and System, National Book Trust.
2. Michal L McKinney, Robert M Schoch, Logan Yonavjak (2013) Environmental Sciences: System and Solutions, John and Bartlett learning.
3. Ping Chi and Qiang Chien (2015) Climate Change and Sustainability, Delve Publishing.
4. P.N. Prasad (2010) Environmental Air Pollution: Causes, Effect and Control, Crescent Publishing Corporation.
5. Steve Goodhew, (2016), Sustainable Construction Process, Wiley.

Sd/-
Signature of Subject Teacher

Sd/-
Signature of Head of the Department