



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: **MSAR116: Resource Conservation and Efficiency** Class: **I Sem. I Year M.Arch (SA), 2024-25 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: **50% each in Internal & External Assessment, 50% in Aggregate**

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	22.07.2024 <i>Week 1</i>	Introduction to the Course ➤ Energy Efficiency and Energy Conservation	Lecture and Group discussion
2	29.07.2024 <i>Week 2</i>	Energy Efficiency and Energy Conservation ➤ Recourse Consumption ➤ Distribution of Energy use in India	Assignment-I on “ Case Studies of Environmental issues in cities ”
3	05.08.2024 <i>Week 3</i>	Energy Efficiency and Energy Conservation ➤ Factors affecting the Energy use in Buildings ➤ Pre-Building Stage, Construction Stage & Post Occupancy stages	Lecture and Discussion
4	12.08.2024 <i>Week 4</i>	Types of natural resources ➤ Including human, material, economic etc. ➤ Need for conservation of resources.	Lecture and Discussion
5	19.08.2024 <i>Week 5</i>	Types of natural resources ➤ Carbon footprint assessment ➤ Concept of ecological capacity etc.	Lecture and Group discussion on the Assignment
6	26.08.2024 <i>Week 6</i>	Overview of Environmental Sciences ➤ Pertaining to the above, including assessments ➤ Mapping tools and methods	Lecture and Discussion
7	02.09.2024 <i>Week 7</i>	Field Work / Case Study visits	
8	09.09.2024 <i>Week 8</i>	Overview of Environmental Sciences ➤ Mapping tools and methods etc. ➤ Human interventions and ecosystem disturbances	Lecture and Discussion
9	16.09.2024 <i>Week 9</i>	Holiday/ Mid Semester Assessment	Internal Assessment – II
10	23.09.2024 <i>Week 10</i>	Overview of Environmental Sciences ➤ Impact of human activities on natural resources and biodiversity, and ➤ changing of the ecosystem cycles etc.	Lecture and Discussion Submission of Assignment-I
11	30.09.2024 <i>Week 11</i>	Impacts on Environments ➤ Local, regional and global impacts on the Environment ➤ Introduction to wasteland creation & barren land formation, ➤ Soil erosion at regional level	Assignment-II on “ Case Studies of Zero Energy Buildings ”
12	07.10.2024 <i>Week 12</i>	Impacts on Environments ➤ Kyoto Protocol ➤ Paris Climate Change Agreement	Lecture and Discussion

S.No.	Week No.	TOPIC OF CLASS LECTURE & DISCUSSION	CLASS ACTIVITY & ASSIGNMENTS
13	14.10.2024 Week 13	Impacts on Environments <ul style="list-style-type: none"> ➤ India's climate change policy and stand ➤ Efficient utilization of resources with case studies. 	Lecture and Discussion
14	21.10.2024 Week 14	Impacts of Urbanization <ul style="list-style-type: none"> ➤ on Ecology and Environment ➤ Water management, waste and land management systems. 	Lecture and Discussion
15	28.10.2024 Week 15	Application of GIS in Resource Conservation	Special Lecture and - Demonstration in GIS Lab
16	04.11.2024 Week 16	Impacts of Urbanization <ul style="list-style-type: none"> ➤ Extreme Climate ➤ Zero Energy Buildings ➤ Carbon neutrality 	Submission of Assignment-II Lecture and Discussion
17	11.11.2024 Week 17	Discussion on the Topics and Feedback	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