

**School of Planning and Architecture: Vijayawada**

(An institution of National Importance under the Ministry of Human Resource Development, Govt. of India)
Survey No.4/4, ITI Road, Vijayawada-520008, Andhra Pradesh, India

Department of Architecture**Course:** ARC5110 - Sustainable Architecture**Instructors:** Dr. Lilly Rose A**Class:** V B. Arch IX Sem A.Y. 2024-25**Internal Assessment:** 50**External Theory Exam:** 50**Total Marks:** 100**Credits:**3**Contact Periods/ week:** 03 periods.(55 min each)**Time Table:** Tuesday 09:00am - 11:45pm**Attendance:** Min 75%**Min. Passing Marks:** 40% each in Internal & External Assessment and 40% in Aggregate

Objective: The subject aims in establishing cohesive relation among architecture, technology and sustainability, enabling students to respond effectively to the growing environmental challenges. The course enables the students to develop skills, knowledge and understanding the environmental sustainability construction and building technology, adopting principles and practice of sustainable design that should respond to environmental challenge such as climate change , environmental degradation etc.

Out Line of the Course:**LECTURE PLAN**

WEEK	DATE	TOPIC OF CLASS LECTURE & DISCUSSION	TOPIC OF STUDIO WORK& ASSIGNMENTS / REMARKS
1	Week-1 23-07-2024	Introduction to Sustainable framework - UN convention on climate change, Kyoto protocol, Earth summit.	Lecture
2	Week-2 30-07-2024	Sustainable development-bruntland report, Ethics, visions, definition & concepts	Lecture + inclass activity
3	Week-3 06-08-2024	Social, environmental and economic sustainability	Lecture
4	Week-4 13-08-2024	Sustainability in the built environment and practices in Vernacular Architecture	Lecture + inclass activity
5	Week-5 20-08-2024	Green materials and their significance in the construction industry and environment	Lecture / Excercises
6	Week-6 27-08-2024	Sustainability in modern construction practices	Lecture + assesment of performance of materials through opaque software
7	Week-7 03-09-2024	Traditional water management techniques and practices with case studies	Lecture + Assignment 1
8	Week-8 10-09-2024	Sustainable waste management practices with case studies	Lecture
9	Week-9 17-09-2024	Mid Semsester week	Mid Semsester assessment
10	Week-10 24-09-2024	Guest Lecture on "Sustainable Communities"	Guest Lecture
11	Week-11 01-10-2024	Sustainable communities and smart cities in India: case study presentations	Lecture + Seminar
12	Week-12 08-10-2024	Identification of Books in the Library for Book review	Book Review
13	Week-13 15-10-2024	Assessment of performance of various buildings materials through field measurements	Integration and use of equipments in Climatology lab
14	Week-14 22-10-2024	Sustainable landscape management at urban scale, wetland management	Lecture + inclass activity

15	Week-15 29-10-2024	Green buildings, Life cycle analysis, Carbon footprint	Lecture + Introduction to Seminar topics
16	Week-16 05-11-2024	Green building rating systems in India, LEED, GRIHA and IGBC.	Lecture + inclass activity
17	Week-17 12-11-2024	Presatation of Book Reviews	Book Review

S. No.	Stages of Evaluation	Weightage in %
1	Internal assessment (Class test, Quizzes, assignments, exercises, seminar etc.)	30
2	Mid-semester Assessment	20
3	End Semester Examination	50
	Total	100

Reference Books:

1. Cooper, Ilay & Dawson, Barry, Traditional buildings of India, Thames & Hudson, 1998.
2. Jo-Hwa Bay and Boon Lay Ong, Tropical Sustainable Architecture, Social and Environmental Dimensions, Architectural Press, Elsevier, 2006.
3. Farr, Douglas. Sustainable Urbanism: Urban Design with Nature. John Wiley & Sons, 2008.
4. Bajpai, Jitendra N., "Building a foundation for smart Indian cities," published in "Insight", a Journal of Indian School of Business, Hyderabad, April 2015.
5. Mark Roseland, Towards Sustainable Communities: Resources for Citizens and their Governments. Stony Crreek, CT New Society Publishers, 2012. (4th Ed)
6. Jenks Mike, Joan Colin, "Dimensions of the Sustainable City", Springerlink, 2010 (available as an e-book at the Columbia University Library).
7. Slessor, Eco-Tech: "Sustainable Architecture and High Technology", Thames and Hudson 1997.
8. Richard Hyder, "Environmental brief:Pathways for green design", Taylor and Francis, 2007.
9. Brenda and Robert vale, "Green Architecture: Design for a sustainable future", Thames and Hudson 1996.

Course Instructor:

(Dr. Lilly Rose A)

Head of Department:

(Dr.Srinivas D)