



School of Planning and Architecture, Vijayawada

(An institution of National Importance under the Ministry of Education, Government of India)
Sy.No. 4/4, I.T.I Road, Vijayawada, AP – 520 008

DEPARTMENT OF ARCHITECTURE

Course: Architectural Design – IX (ARC511)

V Yr. IX Sem. B.Arch, 2024-25 A.Y (Sec - A & B)

Contact Hours : 12 (as per Timetable)		Credits : 12
Internal Assessment : 50% External Assessment : 50% (Jury) Total : 100%	Passing Marks : 40% each in Internal assessment & External assessment	Attendance : 75% Minimum
Faculty : Sec A : Uma Sankar Basina; Ms. Akanksha Ruchi Horo; Mr. Vijesh Kumar V; Ms. Manali Basu Sec B : Mr. Kapil Natadawakar; Mr. Dheeraj.Ch		
Course Outline : To equip the students with methods of analysis and synthesis of urban setting.		
Course objectives : The objectives of this studio are three fold. <ul style="list-style-type: none">• To understand the complexities of large-scale architectural interventions in specific urban settings, having multiple stakeholders.• To explore how to harmonize and contextualize the architectural design with the immediate built environs and the larger urban fabric.• To sensitize the interface between public and private domain.		
Learning outcome : Students completing this course will be able to: <ul style="list-style-type: none">• Analyze the complexities of large-scale architectural interventions in specific urban settings, having multiple stakeholders• Demonstrate a design scheme which harmonize and contextualize with the immediate built environs and the larger urban fabric• Identify the standard codes for Building construction techniques.• Analyze the interface between public and private domain.		

BACKGROUND CONTENT

Issues related to the growing problems of urban areas in third world countries and their future development shall be explored. Emphasis of the studio is to address the interface between public and private realm; and also contextualize their design interventions to the surrounding urban environs. The site analysis and site planning will be carried out at a real life location, considering its **locational context, physical features, views, orientation, volumetric analysis and figure ground study of the built-form characteristics, visual imageries, street-scape and skyline analysis; pedestrian, vehicular circulation pattern, and utility networks.**

The studies also shall be extended to understand the correlation between, physical, socio-cultural, environmental and socioeconomic dimensions of the built environments, so as to identify opportunities and constraints associated with large-scale urban interventions. Students are then expected to apply this understanding to a realistic site to create physical environments through basic tools of master planning, such as: movement networks, open spaces, suggestive built form, infrastructure network and planning norms.

STUDIO THEME (Urban Design for Climate Resilience and Green Mobility)

Site Location: **Vijayawada**, India,

Proposed Dates for field case study visit: **27.08.2024 to 08.09.2024 (Tentative)**

"We shape cities, and they shape us." – Jan Gehl

In response to the pressing challenges of heat waves and urban floods in **Vijayawada**, the Urban Design Studio Theme on "Urban Design for Climate Resilience" aims to develop innovative solutions that enhance the city's ability to withstand and adapt to these climate impacts. Located in a region vulnerable to extreme heat and occasional urban flooding, **Vijayawada** requires strategic urban design interventions to mitigate these risks and improve overall urban resilience.

OBJECTIVES:

1. **Heat Wave Mitigation:** Develop urban design strategies to reduce urban heat islands, enhance thermal comfort, and promote cooling in hotspots across Vijayawada.
2. **Urban Flood Resilience:** Implement flood-resilient design practices, including sustainable drainage systems, flood-proof infrastructure, and adaptive land use planning to minimize flood risks.
3. **Integration of Green Infrastructure:** Integrate green roofs, urban forests, permeable pavements, and water-sensitive urban design elements to manage stormwater, reduce heat, and enhance biodiversity.
4. **Community-Centered Approaches:** Engage local communities, stakeholders, and municipal authorities in the design process to ensure inclusive and participatory decision-making.
5. **Policy Advocacy:** Advocate for policy frameworks that support climate-resilient urban development and implementation in Vijayawada.

APPROACH:

The Urban Design Studio will employ a multidisciplinary approach blending urban planning, architecture, landscape design, and environmental science tailored to Vijayawada's context. Key aspects of the approach include:

- **Climate Data Analysis:** Analyzing local climate data to understand heat wave and flood patterns, informing evidence-based design interventions.
- **Design Interventions:** Developing design proposals that integrate resilient infrastructure, green spaces, and adaptive building technologies to mitigate heat and flooding.
- **Simulation and Visualization:** Using advanced tools for simulation and visualization to assess the performance and feasibility of design solutions under different climate scenarios.
- **Capacity Building:** Equipping participants with skills to engage in sustainable urban design, climate adaptation strategies, and community engagement techniques.

OUTCOMES:

Participants in the Urban Design Studio will generate design frameworks, prototypes, and policy recommendations aimed at enhancing Vijayawada's resilience to heat waves and urban floods. Deliverables will include comprehensive urban design proposals, guidelines for sustainable development, and strategies for fostering community resilience.

By focusing on "Urban Design for Climate Resilience" in Vijayawada, this studio theme aims to empower designers and planners to create cities that are adaptive, sustainable, and resilient to climate change, ultimately improving the quality of life for residents and safeguarding urban environments against future climate risks.

STRATEGY AND SCOPE OF WORK:

1. **Retrofitting** will introduce planning in an existing built-up area to achieve Smart City objectives, along with other objectives, to make the existing area more efficient and liveable.
2. **Redevelopment** will effect a replacement of the existing built-up environment and enable co-creation of a new layout with enhanced infrastructure using mixed land use and increased density.
3. **Greenfield** development will introduce most of the Smart Solutions in a previously vacant area (more than 250 acres) using innovative planning, plan financing and plan implementation tools

STUDIO OBJECTIVE

1. Exposing the students to understand the real time complexities and challenges of a heritage city.
2. Understanding the morphology of the area under study in specific cities through various study and analysis..
3. Let the students understand and analyse basic principles of Urban Design and its relationship with Architecture in context with the city being studied.
4. Help the students to identify and focus on issues which can be addressed.
5. Analysing suitable model of development from Retrofitting, redevelopment and green field development in their area.
6. Importance of community participation, stakeholder engagement and their involvement in the design process.

7. Helping the student to explore how urban design and Architectural design solutions can answer to the issues of water scarcity in identified city.

AREA

For the study, the extent of Vijayawada Municipality is to be considered.

STAGES

Stage 1: Introduction to Urban Design

Desktop Case study: Desktop Case study of an Urban Area (Indian and Abroad)

Stage 2: City Level Study

Site survey: an introductory checklist (to be done by students in group at both city, area and site level)

- 1. Relationship to the city**
 - Evolution and historic growth
 - Location Setting and connectivity
 - Functional Role
 - Demographic Characteristics
- 2. Ecology and Landscape**
 - Major ecological systems and features at city and area levels
 - Ecological precincts and components in and around the area
 - Land profile, topography and characteristics
 - Open space systems and types
 - Predominant flora and fauna
 - MPD references to Ecology and landscape
- 3. Transportation and Infrastructure**
 - Movement network – pedestrian and vehicular
 - Public transportation systems and networks
 - Parking characteristics and para transit operations
 - Transport nodes and terminals
 - Water supply, drainage, power, telecommunication systems and networks
 - Sewerage and solid waste disposal systems, waste management
 - Reference to parking norms, transport network, Infrastructure etc.
- 4. Morphology(Group 1)**
 - Major imageable elements, markers and place of reference
 - Entry points, movement, corridor and street character
 - Building types, spatial types
 - MPD references to Urban form, redevelopment, renewal, conservation etc.
- 5. Morphology (Group 2)**
 - Character zones and precincts, transition areas
 - Distribution of Built form & open spaces
 - Structure of public spaces and streets
 - Architectural expression
- 6. Functional structure**
 - Functional districts and activity areas
 - Industries and Work places
 - Wholesale, retail markets and networks
 - Institutions- educational, religious, social, cultural, etc.
 - 24 Hour activity cycle- distribution, nature and intensity
 - MPD references to Land use and zoning
- 7. Society and culture**
 - Population characteristics- number, composition, nature of occupation, age, etc.
 - Social groups, economic & ethnic configuration
 - Religious affiliation and connected spaces, processional routes and significance
 - Socio- cultural attributes, communal spaces, festivals & rituals
- 8. Planned interventions, regulations and new growth areas with reference to Puducherry**
 - Statutory bodies, jurisdiction and roles
 - Master plan, ZDP and major proposals/schemes under MPLAD etc.
 - Planning norms, development and heritage regulations
 - Major land ownership
 - Development trends, private and public.& Future housing and infrastructure requirements

Note: Each group will be the entire city into different part mostly 8 and will develop Base Map for the entire city

Stage 3: Case study: 1) Ahmedabad 2) Surat --- Identify the places to visit related to the UD

Stage 4: Area Level Study: Will be instructed in class

Stage 5: Identifying issues and possible sites for inventions

Stage 6: Proposals

- a) Overall Vision and Agenda
- b) Structure Plan proposals
- c) Final Structure Plan
- d) Conceptual Design scheme
- e) Detailed Design scheme

IMPORTANT DATES

Week	Dates	Exercise	Marks (%)	Mode of submission
1	25.07.2024, 26.07.2024	Stage 1: Introduction to Urban Design (Group work)	5	Printed A1 sheets
2	01.08.2024, 02.08.2024	Stage 2: City-Level Study (Group work)	-	Printed A1 sheets
3	08.08.2024, 09.08.2024	Stage 2: Progress Review	-	Printed A1 sheets
4	15.08.2024, 16.08.2024	Stage 2: Review	10	Printed A1 sheets, , Site Model
5	22.08.2024, 23.08.2024	Stage 4: Area Level Study (Group work)	-	Printed A1 sheets, Area Level Model
6	27.08.2024 to 08.09.2024	Stage 3: Case study: 1) Ahmedabad 2) Surat (Group work)	-	Prints, Sketches, Documents, photographs, so on.
7				
8	12.09.2024	Stage 3: Review	10	Printed A1 sheets
	13.09.2024	Stage 4: Progress Review	-	Printed A1 sheets, Area Level Model
9	19.09.2024, 20.09.2024	Stage 4: Review	20	Printed A1 sheets, Area Level Model
10	26.09.2024, 27.09.2024	Stage 5: Identifying issues and possible sites for inventions (Group work)	10	Printed A1 sheets, Area Level Model
11	03.10.2024, 04.10.2024	Stage 6: Proposals - Structure Plan Interventions (Group work)	-	Printed A1 sheets, Area Level Model
12	10.10.2024, 11.10.2024	Stage 6: Progress Review	-	Printed A1 sheets, Area Level Model
13	17.10.2024, 18.10.2024	Stage 6: Review	20	Printed A1 sheets, Area Level Model
14	24.10.2024, 25.10.2024	Stage 7: Proposals - Interventions at building level (individual)	-	Printed A1 sheets, Area Level Model, Building Level model
15	31.10.2024, 01.11.2024	Stage 7: Progress Review	-	Printed A1 sheets, Area Level Model, Building Level model
16	07.11.2024, 08.11.2024	Stage 7: Review	20	Printed A1 sheets, Area Level Model, Building Level model
17	14.11.2024	Final Submission	5	Printed A1 sheets, Area Level Model, Building Level model

Note: Total Internal Marks will be converted to 50. Total marks will be 100, including internal and External 100. All are requested to adhere to the submission dates strictly.

References:

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7. Hall, Peter Geoffrey. 1980. Great planning disasters. Berkeley: University of California Press, 1996. Cities of tomorrow. Rev. ed. Oxford, UK: Blackwell.
8. Jacobs, Jane. 1961. The death and life of great American cities. New York: Vintage
9. Jacobs, Jane. 1969. The Economy of Cities. New York: Vintage Press.
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11. Krier Rob, Urban Form and Space, Academy Editions, 1979
12. Lang Jon, The American Experience, Paperback 1994
13. Lang Jon, Urban Design, A Typology of procedures and products, The Architectural Press,2005
14. Lynch Kevin, The Image of the city, MIT Press, 1960
15. Lynch, Kevin, Good City Form, MIT Press, Cambridge MA and London 1984
16. Lynch, Kevin, What Time is this Place?, MIT Press, Cambridge MA 1972
17. Marshall, Stephen. 2009. Cities design and evolution. Abingdon, Oxon ; New York, NY: Routledge
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19. Rogers, Richard (1998) Cities for a small planet,Icon editions, Paperback publishing, UK.
20. Rossi Aldo, The Architecture of the City, L' ArchitetturadellaCitta in 1966
21. SchirmbeckEgon, Idea, form and Architecture- Design principles in contemporary architecture
22. Spreiregen Paul D., Architecture of Towns and Cities, Mc.GrawHill Book, Co. 1965.