



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 Studio (ARC421)

IV Yr. VIII Sem. B.Arch, 2024-25 A.Y (Sec - A & Sec - B)

Contact Hours : 12 (as per Timetable)		Credits: 12
Internal Assessment: 50%	Passing Marks: 40% each in Internal assessment & External assesment	Attendance: 75% Minimum
External Assessment: 50% (Jury)		
Total : 100%		
Faculty: Sec A: Dr Venkata Krishna Kumar Sadhu, Vijesh Kumar V, Komal Gilda, Samantha Kumar Tadiboina Sec B: Dr Amitava Sarkar, Dr Khup Lianlam Tunngung, Dr Prashanti Rao, Murikinati Sai Sumanth		
Course Outline: To equip the students with housing issues like housing needs, shortage, affordability, Housing finance, socio-economic challenges and other complexities and arrive at solutions that can be accepted in today's market scenario.		
Course objectives: <ul style="list-style-type: none">• To expose the students to the complexities of providing shelter for people from different socio-economic background in close proximity to each other, in urban areas.• To sensitize the students about land scarcity and expose them to different typologies of high-density Housing.• To expose the students to the challenges of bigger scale site planning involving a group of buildings.• To enable the students apply theoretical knowledge learnt in previous semesters in architectural design exercise.		
Learning outcome: The students are expected to carry out detailed analysis, study the existing schemes and policies and propose adequate designs and/or solutions in the current scenario. The students should be able to demonstrate their understanding of structures and services and coordination of the same through their design project.		

INTEGRATED WELLNESS TOWNSHIP

Healthcare and Housing Mixed-Use Developments: A New Era of Integrated Living

Introduction

Mixed-use developments have emerged as a prominent trend in urban planning, seamlessly blending residential, commercial, and recreational spaces. These developments offer a convenient and dynamic lifestyle by providing essential amenities within close proximity. However, a cutting-edge innovation is the integration of healthcare facilities within these mixed-use communities. This forward-thinking approach creates vibrant hubs where people not only live and work but also have convenient access to essential healthcare services.

By strategically incorporating medical offices, clinics, pharmacies, and even wellness centers into mixed-use developments, developers are fostering a holistic approach to living. Residents can easily access preventative care, manage chronic conditions, and prioritize their well-being without the need for extensive travel. This integration not only enhances convenience but also promotes healthier lifestyles and fosters a stronger sense of community within the development.

This introduction sets the stage for a deeper exploration of the benefits, challenges, and considerations associated with healthcare and housing mixed-use developments. It highlights the potential for these innovative projects to revolutionize how we live, work, and prioritize our health in urban environments.

- **Blending of uses:** Mixed-use developments combine residential, commercial, and now healthcare spaces.
- **Convenience and accessibility:** Residents have easy access to essential healthcare services within their community.
- **Holistic approach to living:** Promotes healthier lifestyles and prioritization of well-being.
- **Community building:** Fosters a stronger sense of community within the development.

CHALLENGE

This exercise challenges us to create a balanced mixed-use development adhering to the 40/40/20 distribution for healthcare, housing, and amenities. This requires careful spatial planning, seamless integration, and addressing diverse user needs. Furthermore, the design must extend beyond individual buildings to create a resilient neighbourhood. This necessitates incorporating features that enhance pandemic resilience, such as improved ventilation and flexible spaces, and bolstering community safety through enhanced surveillance and controlled access. Environmental sustainability is paramount, requiring strategies to distribute open spaces, mitigate energy demand, address solid waste management, urban heat islands, and improve affordability. Ultimately, an iterative and collaborative approach is crucial to develop a solution that effectively balances these competing demands and creates a vibrant, healthy, and livable community.

REQUIREMENTS

The mixed-use development plan allocates 40% of the space to healthcare and wellbeing facilities. The remaining 60% is divided into housing (40%) and amenities (20%). Housing options include plotted developments (10%) and various apartment configurations, with the majority being 3BHK units (35%). Amenities incorporate a community center (30%), essential services like schools and post offices (40%), and commercial spaces (30%). This plan suggests a community-oriented development that integrates healthcare, diverse housing options, and essential amenities for a well-rounded living environment.

Table 1: Distribution of housing and facilities

Sl.No.	Development	Distribution (%)
A	Healthcare and Wellbeing	40
B	Housing	40
1	Plotted Developments	10
2	4BHK (~120sqm.)	25
3	3BHK (~90sqm.)	35

4	2BHK (~60sqm.)	5
5	1BHK (~30sqm.)	5
6	Studio Apartments	20
C	Amenities	20
1	Community Centre	30
2	Amenities (School, Post office, Convention Center, etc.)	40
3	Commercial	30

Dwelling unit sizes have to be taken as per norms. The guidelines have to be followed for Group Housing only as per URPDFI. The proposal has to be made for 175 DU/Ha. All other constraints not noted should be in compliance with the building bye-laws of the selected site. **You may develop your own proposal as per the need or demand of the location, but following the guidelines.**

SITE

You are allowed to select the site based on the context.

IMPORTANT DATES

S.No.	Exercise	Mode of submission	Date
1	Introduction	-	02.01.2025
2	<p>Literature Study on the topics given below, Select Anyone from the list given below.</p> <ol style="list-style-type: none"> Standards and Guidelines for Hospital Design in India The National Building Code Andhra Pradesh Building Bye-laws (plus Illustrations) Green Building Codes, Sustainable Design Concepts and Passive Design Methods Healing Architecture Technological know-how and scientific approach to Housing Technological know-how and scientific approach to Healthcare Architecture Biophilic design, Biomimicry/Biomimetic architecture Disaster Resilient Methods in Building and Site planning Design standards and guidelines for Universal Design User-Centric Design Study of Distribution of Healthcare and Housing Facilities in Vijayawada <p>... and one national and one international case study are to be presented.</p>	<p>Composed A3 sheets. Submit online (Google Classroom in pdf format) and offline (A3 prints).</p> <p>Team of 4 members (Only Topic 10 and 12 can have 5 members)</p> <p>10 Marks</p>	<p>Discussion 03.01.2025 09.01.2025 10.01.2025</p> <p>Review: 16 - 17.01.2025</p>

3	<p>Site Analysis and Programme Development Present Site Analysis by addressing the following factors.</p> <ol style="list-style-type: none"> 1. Location & Connectivity 2. Context : Massing (SketchUp)& Base Map (500*500m) 3. Transportation & Movement network (Accessibility to the site) 4. Natural Terrain & Topography 5. Ecology– water body, green network etc. 6. Existing Land-use & Density (Master plan) 7. User Group & Demography 8. History & culture of the city (prominent trend & architects) 9. Existing building bylaws (Fire safety, building regulations related to NBC etc, all aspects) 10. State policies applicable to the site 11. Services 12. Disaster – earthquake etc. 13. Activity analysis 14. Microclimate (Climatic analysis) 15. Materials (Locally available) & Construction Techniques 16. Surrounding landuse/buildings 17. Accessibility of various amenities and services (commercial, school, post office, bank, super market, etc.) 18. Existing fabric and life style of people 19. Site Plan and Site Model 20. SWOT analysis <p>You may add more points to it for discussion.</p>	<p>Composed A0/A1/A2 sheets. Submit online (Google Classroom in pdf format) and offline (A0/A1/A2 prints).</p> <p>Team of 4 members</p> <p>10 Marks</p>	<p>Discussion 23.01.2025 24.01.2025</p> <p>Review: 30 - 31.01.2025</p>
4	<p>Field Visit (Follow the Case Study Checklist circulated)</p>	<p>Composed A0/A1/A2 sheets. Submit online (Google Classroom in pdf format) and offline (A0/A1/A2 prints).</p> <p>Team of 4 members</p> <p>10 Marks</p>	<p>Field Trip to Kolkata 01.02.2025 10.02.2025</p> <p>Review 13.02.2025 14.02.2025</p>

5	<p>Concept</p> <ol style="list-style-type: none"> 1. Site level concept development 2. Building level concept development <p>Bubble diagram, Proximity Chart, Site Zoning at building and site level. Discuss ideas on form related to but not limited to,</p> <ul style="list-style-type: none"> • Compact layout yet spaciousness (Density with Dignity) • Creating zones of served and service spaces • Incorporating open and semi-open spaces within the house, such as a balcony, verandah, terrace, etc. • Smooth transition between inside and outside without compromising privacy • Orientation of the house concerning climate and open spaces within the cluster. • Natural light and cross-ventilation <p>Issues to be addressed at Cluster & Site Level</p> <ul style="list-style-type: none"> • Creating cluster identity through shared open and semi-open spaces • Separation between vehicular movement and pedestrian areas • Breaking monotony by generating multiple experiences at cluster and site levels. For example, creating a continuous network of vehicle-free, open spaces. • Orientation of clusters concerning prevailing wind-direction and sun-path diagram • Common space and shared facilities at site level. 	<p>Composed A0/A1/A2 sheets. Submit online (Google Classroom in pdf format) and offline (A0/A1/A2 prints).</p> <p>Team of 4 members</p> <p>Site plans (1:500 scale), Building plans (1:100 scale), individual unit plans (1:50 scale), development of block models (Suitable scale), sketches, walk-throughs, and views are required.</p> <p>10 Marks</p>	<p>Discussion and Review</p> <p>20.02.2025 21.02.2025</p>
6	<p>Scheme 1</p> <ol style="list-style-type: none"> 1. Master Plan 2. Building layout 3. Appraisal on density <p>Appraisal on facilities and services</p>	<p>Composed A0/A1/A2 sheets. Submit online (Google Classroom in pdf format) and offline (A0/A1/A2 prints).</p> <p>Team of 4 members</p> <p>Site plans (1:500 scale), Building plans (1:100 scale), individual unit plans (1:50 scale), development of block models (Suitable scale), sketches, walk-throughs, and views are required.</p> <p>10 Marks</p>	<p>Discussion</p> <p>27.02.2025 28.02.2025</p> <p>Mid Sem Review:</p> <p>06 - 07.03.2025</p>

6	<p>Scheme 2 Development of alternate layouts with furniture and service layouts</p> <ul style="list-style-type: none"> • Selecting Materials and the structural system emphasising pre-cast and lightweight construction technologies. • Incorporating the structural system in the design. Make changes or modify the design to meet the requirements of structure and technology. <p>Issues such as modularity, minimum components with maximum variations for the pre-cast system, etc. to be addressed</p>	<p>Composed A0/A1/A2 sheets. Submit online (Google Classroom in pdf format) and offline (A0/A1/A2 prints).</p> <p>Site plans (1:500 scale), Building plans (1:100 scale), individual unit plans (1:50 scale), development of block models (Suitable scale), sketches, walk-throughs, and views are required.</p> <p>15 Marks</p>	<p>Discussion 13.03.2025 14.03.2025</p> <p>Review: 20 - 21.03.2025</p>
7	<p>Prefinal Detailed design</p> <ul style="list-style-type: none"> • Simulate building performance based on climatic and spatial analysis • Make changes/modify the design based on the analysis • Develop building elements of the facade in response to the context 	<p>Composed A0/A1/A2 sheets. Submit online (Google Classroom in pdf format) and offline (A0/A1/A2 prints).</p> <p>Site plans (1:500 scale), Building plans (1:100 scale), individual unit plans (1:50 scale), development of block models (Suitable scale), sketches, walk-throughs, and views are required.</p> <p>20 Marks</p>	<p>Discussion 27.03.2025 28.03.2025</p> <p>Review: 03 - 04.04.2025</p>
8	<p>Final Detailed design</p>	<p>Composed A0/A1/A2 sheets. Submit online (Google Classroom in pdf format) and offline (A0/A1/A2 prints).</p> <p>Site plans (1:500 scale), Building plans (1:100 scale), individual unit plans (1:50 scale), development of block models (Suitable scale), sketches, walk-throughs, and views are required.</p> <p>15 Marks</p>	<p>Discussion 10.04.2025 11.04.2025</p> <p>Review: 17 - 18.01.2025</p>

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