SCHOOL OF PLANNING AND ARCHITECTURE: VIJAYAWADA

(An institution of National Importance under the Ministry of Human Resource Development, Govt. of India)
R.S.No. 4/3, 5/3, 7/2, Beside Govt. Polytechnic College, I.T.I Road, Vijayawada, AP – 520 008

DEPARTMENT OF ARCHITECTURE

Course: Architectural Design Studio: Functionally Complex Buildings (ARC-321)
III Yr. VI Sem. B.Arch, 2023-24 (Sec - A & Sec - B)

<table>
<tr><td colspan="3">Contact Hours : 12 (06 on Thursday + 06 on Friday)</td><td>Credits: 12</td></tr>
<tr><td>Internal Assessment: 50 Marks
Externals Assessment: 50 Marks (Jury)</td><td>Total Marks: 400</td><td>Passing Marks:
40% each in Internal & External 50% in Aggregate</td><td>Attendance:
75% Minimum</td></tr>
<tr><td colspan="4">Faculty (Sec A): Dr. RNS Murthy, Ar. Kapil Natawadkar and Visiting Faculty
Faculty (Sec B): Dr. Uma Shankar Basina , Dr Prashanti Rao and Renuka W.</td></tr>
<tr><td colspan="4"><u>Course Outline</u>:
The focus of the studio is on functionality and integration of advanced technology and services. The studio enables understanding the complex mechanisms of designing services intensive buildings in urban context, having multiple levels (above and/or underground). The special emphases are on utilitarian parameters, space optimisation, conformance with regulatory requirements, integration of structural systems and building services (HVAC, fire, electrical, communication, plumbing etc.) in architectural layout and construction technology. The studio encourages the students to explore modern automation systems for building management and energy conservation. They will learn about site planning and landscaping as well.</td></tr>
<tr><td colspan="4"><u>Course objectives:</u>
The objectives of this studio are as follows:
• To expose the students to the challenges of designing functionally complicated buildings, having a complex array of activities and building services;
• To familiarise the students to the task of coordinating integration of structural design and specialised building services in the framework of architectural design.
• To let the students understand advanced construction technology and newer building materials.
• To Re-Imagine the traditional Mixed-Use Complex based on prevailing Climatic, Cultural and Urban Design Context where the site is located.
• Incorporate Universal Design Principles.</td></tr>
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Mixed Use Complex (3-Star hotel +Commercial complex+ Conventional building)

Introduction:

The Indian hotel sector is seeing significant expansion due to the endless potential for tourism and undiscovered economic opportunities in the future years. 3-star hotels are increasingly gaining popularity nationwide. The hotel offers satisfactory facilities, superior service, appealing physical features, and well-designed accommodations. It is ranked as a three-star establishment in terms of comfort. These hotels are often situated near major expressways, airports, and commercial districts, making them accessible for shopping excursions and other activities. Given the scarcity of available land in the urban centre, it is more apparent and necessary to adopt a mixed land-use approach in city development. This land use category provides services that cater to a wide range of people.

Therefore, Design Integrated mixed-use complex that includes a three-star hotel, a commercial complex, and a convention center. The complex is designed to attract the greatest possible number of people by using contemporary ideas, technology, and amenities. This commercial complex would serve as a "urban center" for the surrounding area, meeting the requirements of people of all ages and demographics. The city of Vijayawada, which serves as the capital of the state of Andhra Pradesh in India, represents the site of the project. The project is necessary because the city is expanding, and there is a need for additional high-quality hotels with three stars in both conventional and upscale commercial centers. This is the reason why the project is also necessary. Additionally, this is going to be constructed as a landmark that is instantly recognizable, reimagining the conventional mixed-use complex in a manner that is contextually suitable, as was noted previously. The cultural setting of Andhra Pradesh and the urban built-form environment that is present in Vijayawada are both important factors that need to be taken into consideration.

Site:

Vijayawada, Andhra Pradesh

Site Dimensions:

As per site selection.

Basic Site information: Site Area: ~3.8 acres; Refer building bye-laws of Andhra Pradesh(G.O 119) for Permissible FAR, Maximum Ground Coverage, and Minimum setback as per building Byelaws; Site Slope: Negligible.(To be considered as relatively flat site)

DESIGN REQUIREMENTS- Detailed Design requirements after site and context study

Broader Areas

- 3-Star Hotel (Requirements as per Three-Star Hotel Guidelines as per ITDC, ie. Indian Tourism Development Corporation)
- STANDALONE SHOPS
- ANCHOR SHOWROOMS
- RECREATIONAL FACILITIES LIKE RESTAURANTS
- ANY OTHER FUNCTION AFTER SITE AND CONTEXT ANALYSIS AS DEEMED FIT AND JUSTIFIED.
- Separate HVAC, Electrical, Fire-Fighting and Plumbing Services Schematic Outlays.

Submission Schedule:

Schedule

S.N.	Week	Stages	Exercise	Method of submission	Date
1	1 - 2	1	**Desktop Studies** 1. Conceptual understanding about functionally complex building by exploring various services associated with it in general. 2. Contextual study of Mixed use buildings, demand, schemes and policies of the selected site. 3. Appraisal on land use of the selected area by refereeing proposed master plan 4. Data collection and interpretation of on existing building bye laws applicable to project. 5. Desktop Case study to be done	Presentation and submission in ppt / doc / pdf format.	3-4, February 2024
2	3	2	**Case Study** 1. Field visit -10 th -18th Feb Case study documentation, Analysis also to Develop the spatial requirements for mixed-used buildings to achieve maximum FAR of the selected area.	Presentation and submission in ppt / doc / pdf format.	22-24, February 2024
3	3	3	**Special Lecture by- Dr. Nagaraju Kaja**		
4	4	4	**Site Analysis and Zoning** 1. Site interpretation 2. Site immediate context 3. Site elements 4. Site services 5. Microclimatic analysis 6. Study on Massing related to maximum built based on FAR and other bye-laws. 7. Other contextual factors	Presentation and submission in ppt/doc / pdf format.	28th February 2024 to 1st March 2024 (Midsem Jury)
5	5-6	5	**Concept** (Bubble diagrams, activity chart, proximity chart, user/service movement chart, etc.) 1. Site level concept development 2. Building level concept development 3. Service level Concepts	Presentation and submission in ppt / doc / pdf format.	7-8, March 2024

6	7	6	**Single line Scheme** 1. Site layout 2. Building Layout **3. <u>Services Layout</u>** 4. Horizontal and vertical circulation	Online presentation and submission in ppt / doc / pdf format. Site plans, Building plans, individual unit plans, development of block models, sketches, walk through, etc. are required.	21-22, March 2024
8	7	8	**Special Lectures by Ar. Karthik Ch**		
9	9 - 10	9	**Double line Scheme** Development of layouts with furniture and service layouts	presentation and submission in ppt / doc / pdf format. Site plans, Building plans, individual unit plans, development of block models, sketches, walk through, etc. are required.	4-5 .April 2024
10	11 - 12	10	**Prefinal** Detailed design	Online presentation and submission in ppt / doc / pdf format. Site plans, Building plans, individual unit plans, development of block models, sketches, walk through, etc. are required.	11-12 .April 2024
11	15 - 16	11	**Final** Detailed design	Online presentation and submission in ppt / doc / pdf format. Site plans, Building plans, Service layout, individual unit plans, development of block models, sketches, walk through, etc. are required.	18-19 April 2024

Assessment Schedule-(Internal Assesment)-50 Marks
Assessment-1 10 Marks
Assessment-2 15 Marks
Assessment-3 15 Marks