Lok Jagruti Kendra University
University with a Difference

Diploma in Architectural Assistantship

LJ Polytechnic

Course Code:025080401

Design Studio 4

Programme / Branch Name	Diploma in Architectural Assistantship					
Course Name	Design Studio 4				**Course Code**	025080401
Course Type	HSSC	BSC	ESC	PCC	OEC	PEC

Legends: HSSC: Humanities and Social Sciences Courses BSC: Basic Science Courses
ESC: Engineering Science Courses PCC: Program Core Courses
OEC: Open Elective Courses PEC: Program Elective Courses

1. Teaching and Evaluation Scheme

Teaching Hours / Week / Credits				**Evaluation Scheme**			
L	**T**	**P**	**Total Credit**	**CCE**	**SEE (Th)**	**SEE (Pr)**	**TOTAL**
0	0	12	6	100	-	200	300

Legends:
L: Lectures T: Tutorial P: Practical
CCE: Continuous & Comprehensive Evaluation
SEE (Th): Semester End Evaluation (Theory)
SEE (Pr): Semester End Evaluation (Practical)

2. Pre-requisites

- ✓ Understanding of plans, elevations and sections
- ✓ Incorporate the knowledge of qualities of architectural spaces both built and open
- ✓ Drafting skills with proper line intensity

3. Rationale

This course is about housing design which is a multi-layered process which requires recall and application of knowledge of previously covered parameters of architectural design like form and space, spatial organization and relationships. It enables the students to independently design large projects and to handle a large site for designing e.g. dividing it into sectors. It also enables them to design a functional housing layout by simultaneously designing residential units on a given site with respect to climate, site topography, building bye-laws, hierarchy of spaces, etc. Knowledge of structure, building construction and building services is imparted in this semester which is applied by students while preparing individual housing unit designs as well as housing layout designs. During the entire design process, knowledge of different types of openings and their locations in a building with respect to interiors and climatology is also gained by the student which helps them design suitable architectural elements. Knowledge of design parameters, spatial order, structure as order and space–structure-form co-relation is also gained by continuous interaction with concerned faculty during the study of this course. Thus, designing a given housing project enables the students to learn and apply basic architectural designing skills related to residential unit designs as well as to site layout. This course is designed in view of above outlook and for developing the competency mentioned below, accordingly.

4. Objectives

- ✓ The course will introduce students to develop a sense of scale based on the human body, concepts of human presence, size, scale, proportions and their relationships.
- ✓ The course will introduce students to the design fundaments with respect to function and aesthetics.
- ✓ The course will introduce students to the properties and application of building material and its ability to create architectural space and form of a certain ambiance and scale.
- ✓ The course includes problems involving above considerations such as institutes, residential schools, shopping malls(medium size), single funcgtion sports complex, medium size buildings, appartments(G+3), etc.
- ✓ The course includes understanding of interlock areas linked by common spaces, appropriate grids, radial spaces and clustered spaces.
- ✓ This course helps in the learning process of different residential typology designs.

5. Contents

Unit No.	Unit Name	Topics	Learning Outcomes	% Weightage	Hours
1.	**Data Collection**	1.1. Importance of Design Studio 4 1.2. Introduction and Study of Existing Group Housing Schemes/Mass Housing Schemes of Both Private Entrepreneurs/Builders as well as Company Housing 1.3. Primary Data Collection: on Site 1.4. Secondary Data Collection: From Books, Magazines, Internet, Etc. Data Collection by Study of 'Housing' Design Works of Students of Architecture Degree & Diploma Colleges Through Students Visits or Presentations By Experts From Both Industry and Other Institutes	• Understanding of Existing Grouphousing Schemes/Mass Housing Schemes of Both Private Enterpreneures/Builder as well as Company Housing. • Analyze The Design of Housing Unit in Group Housing. • List Primary & Secondary Data Collection Points. • Describe Primary & Secondary Data Collection. • Formulate Design Requirements for The Given Housing Design Project. • Analyze The Form, Functional Clarity, Circulation Within The Building.	10	26
2.	**Development of Concept and Locating The Housing Units in Site**	2.1. Housing Housing Unit Design With Respect to Lighting & Ventilation, Space, Form, Structure and Materials of Construction 2.2. Housing Unit Layout	• Prepare Conceptual Alternatives and Ideas Considering Various Design Parameters for Further Design Development of Housing Units.	15	28

		With A Functional Land-Building Relationship & Principles for Creating A Hierarchy of Spaces Which Includes Site Topography, Site Surroundings and Climatic Considerations 2.3. Housing Unit Design With Respect to Lighting & Ventilation, Space, Form, Structure and Materials of Construction 2.4. Housing Layout Design With Respect to Hierarchy of Spaces, Spatial Organization, Pedestrial and Vehicular Movements	• Prepare A Functional Land-Building Relationship Diagram Based on Requirements for Housing Units. • Prepare A Functional Land-Building Relationship Digram Based on Given Layout Requirements.		
3.	**Preparing Sketch Design and Development of Drawings**	3.1. Development of Floor Plans, Sections, Elevations and Spatial Relationships at Appropriate Scale 3.2. Development of Site Layout With Road Network and Landscaping 3.3. Development of Elevations and Sections With Respect to Building Finishes Fenestrations and Levels 3.4. Axnometric/Isometric View of The Designed Buildings as well as of The Site Layout	• Produce Improved Sketch Design for Housing Units with Regard to Functional Integration of Interior Spaces and Other Design Parameters. • Produce Improved Sketch Design for Housing Layout With respect to Spatial Ordering Principles for The Housing Units and Their Layout on Site.	10	32
4.	**Design and Development of Drawings**	4.1. Development of Floor Plans, Sections, Elevations and Spatial Relationships at Appropriate Scale 4.2. Development of Site Layout With Road Network and Landscaping 4.3. Development of Elevations and Sections	• Develop The Sketches of Both Housing Units and Site Layout to An Appropriate Scale as per Specific Requirements of Various Categories. • Prepare Furniture Layout Drawings &	15	24

		With Respect to Building Finishes Fenestrations and Levels 4.4. Axnometric/Isometric View of The Designed Buildings as well as of The Site Layout 4.5. Furniture Layout Drawings for Various Activities/ Functions of The Housing Units Based on Given Requirements 4.6. Cluster Plans for Various Categories of Housing Units 4.7. Housing Site Layout Drawing for Various Activities/Functions Based on Given Requirements	Cluster Plans for The Designed Housing Units of Each Individual Category. • Visualize and Draw The Necessary Building Drawings and Site Layout to Scale in 3D. • Prepare A Block Study Model of The Designed Housing Unit as well as The Site Layout. • Prepare Complete Housing Site Layout Drawings With Housing Unit Locations, Roads, Common Spaces and Amenities, Parking and Landscaping.		
5.	**Final Presentation of Drawings and Models**	5.1. Final Presentation Drawings With The Application of Knowledge of Architectural Rendering Techniques Gained in Previous Semester 5.2. Presentation of Models of Individual Housing Units, Clusters and of The Entire Site	• Prepare A Set of Final Presentation Drawings Including All of The Above To A Suitable Scale. • Prepare Models of The Designed Housing Project To A Suitable Scale With Surroundings.	20	58
				Total Hours	**168**

6. List of Practicals / Exercises

The practicals/exercises have been properly designed and implemented in an attempt to develop different types of skills, so that students can acquire the competencies/programme outcomes. Following is the list of practicals/exercises.

Sr. No.	Practicals / Exercises	Key Competency	Hours
1.	Collect data of various housing projects & analyze the same.	Case study, data collection and literature survey	26
2.	Prepare conceptual sketches housing units and site layout of various categories of given housing project, based on given requirements.	Conceptual sketch drawings	28

3.	Prepare sketch designs of housing units and of site layout with road network, parking, landscaping and other site features.	Sketches & drafted presentation drawings	32
4.	Develop the unit and site layout designs further and prepare drawings of all floor plans, sections, elevations as well as detailed site layout with road network and landscaping. Also draw all necessary drawings in 3D and prepare block study models. Prepare housing unit plans with furniture layouts, detailed elevations and sections, cluster plans and complete detailed site layout drawings with housing unit locations, roads, common spaces and amenities, parking and landscaping.	Site study, requirements and site layout, unit plans, cluster plans, elevations and sections in appropriate scale	24
5.	Produce final presentation drawings; all floor plans, elevations, sections, 3d view of the building and model to suitable scale.	Presentation drawings (plans, elevations, sections, sketches, 3d views, 3d model in appropriate scale)	58
		Total Hours	**168**

7. Reference Books

1) Architecture – Form, Space & Order by Francis D.K.Ching, John Wiley & Sons
2) Visual Dictionary of Architecture by Francis D.K.Ching, John Wiley & Sons
3) Neufert Data Standards Emst Neufert Archon Books
4) Contemporary Indian Architecture-After the Masters by Bhatt Vikram & Peter Scriver, Mapin Publication
5) Modern Architecture in India- Footprints in the sands of Indian architecture by Bagha Sabrbajeet & Bagha Surinder, Galgotia Publication
6) 100 Of The Worlds Best Houses by Slessor, Images Publication
7) 200 Houses by Cleary, Images Publication
8) 21st Century Sustainable Home by Cleary, Images Publication
9) Architecture in India since 1990 by Mehrotra, Pictor
10) Architecture of the home by Nylander, Wiley
11) Bio Architecture by Senosian, Architectural Press
12) Design First by Walters, Architectural Press
13) Housing I, Archiworld
14) Letters to a Young Architect by Benninger, CCBA
15) Time Saver Standards for Housing and Residential Buildings by Panero, BPB
16) Time Saver Standards for Landscape Design by Dines, BPB
17) Collective housing- A Mannual by Lapuerta, Actar
18) Global Housing Projects since 1980 by Mateo, Actar
19) Guide to the Architecture of the Indian Subcontinent by Kamiya, Atsushi Sato
20) 21st Century Architecture- Apartment Living by Browne, Images Publication

8. Open Sources (Website, Video, Movie)

1) www.archnet.org
2) www.greatbuildings.com