

1. COURSE

AR1D3. Design Studio III (Mandatory)

2. GENERAL INFORMATION

2.1 Course	:	AR1D3. Design Studio III
2.2 Semester	:	3 rd Semester.
2.3 Credits	:	4
2.4 Hours	:	4 HT; 4 HP;
2.5 Duration of the period	:	16 weeks
2.6 Type of course	:	Mandatory
2.7 Learning modality	:	Face to face
2.8 Prerequisites	:	AR1D2. Design Studio II. (2 nd Sem)

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

Design Studio III: Collective Housing moves the student from the single dwelling designed in Design Studio II (AR1D2, prerequisite) to medium-density collective housing. Students explore housing typologies – blocks, duplexes, row houses – and the relationship between the individual unit, the building, and shared community space. The studio places particular emphasis on the lateral structural systems that medium-density housing requires, and on designing equitably for the social diversity of a collective housing community. This course is the foundation for Design Studio IV (AR2D1), which introduces the program's first public building typology.

5. GOALS

- Design housing units within medium-density typologies (blocks, duplexes, row houses) and organize them into a coherent building and urban fabric.
- Analyze and apply urban morphology concepts – street, block, and plot systems – to the siting of a collective housing project.
- Design the lateral load-resisting system (moment frames, braced frames, shear walls) and coordinate it with the floor diaphragm, appropriate to a medium-density housing building.
- Apply equity, accessibility, and gender-sensitive design principles to the design of shared community space within the housing project.

6. COMPETENCES

- AG-A02)** Applies ethical principles and the standards of professional architectural practice, respecting the legal framework and human diversity. (Usage)
- AG-A08)** Understands the structural and environmental design problems associated with construction and the engineering of building design. (Usage)
- AG-A15)** Understands the relationship between people, buildings, and their environment, and the need to relate buildings and spaces to human scale and needs. (Usage)

7. TOPICS

Unit 1: Housing and Residential Environments (12 hours)	
Competences Expected: AG-A15	
Topics	Learning Outcomes
• Housing typologies: single-family detached, row house, courtyard building, walk-up apartment, point tower, slab block, double-loaded corridor, • Affordable housing strategies: inclusionary zoning, density bonuses, cross-subsidization, public-private partnerships, community land trusts (CLTs), and the financial • Housing quality and dweller control: orientation for sunlight and ventilation, unit depth to window ratio, privacy thresholds (distance to opposite windows), acoustic separation • Mixed-income and social mix housing: fostering social interaction, avoiding stigma of large public housing projects (Pruitt-Igoe lessons), • Housing policy frameworks: Vienna's social housing model, Singapore's public housing, Chilean housing subsidies,	• Identify the principal housing typologies and their urban density contributions, and describe the design qualities that distinguish high-quality residential environments from poorly designed ones [Familiarity] • Design a housing block at the neighborhood scale, specifying building typology mix, dwelling unit orientation and ventilation strategy, [Usage] • Evaluate a housing project for quality of life, affordability, and urban integration, using indicators such as floor-to-ceiling height, access to light [Assessment]
Readings : [Schneider2007]	

Unit 2: Urban Form and Morphology (10 hours)	
Competences Expected: AG-A15	
Topics	Learning Outcomes
• Kevin Lynch's city image elements: paths, edges, districts, nodes, and landmarks; their role in legibility and wayfinding; application to urban design analysis and intervention • Street, block, and plot systems: typologies (grid, radial, organic, cul-de-sac), block dimensions and permeability, plot subdivision, • Urban building typologies: single-family detached, row house (townhouse), courtyard building, slab, point tower, and linear block • Morphological analysis methods: Conzenian (burge cycle, fringe belts), space syntax (integration, connectivity, choice), and figure-ground diagrams for reading urban form • Urban fabric layers: plot subdivision history, street network evolution, land use succession, and the persistence of plot boundaries over centuries as a design constraint	• Identify the key morphological elements of a city - streets, blocks, plots, buildings - and describe the relationships among them that define urban character [Familiarity] • Apply morphological analysis tools (figure-ground, space syntax) to an urban sector, identifying its legibility, connectivity, and typological diversity [Usage] • Evaluate the morphological coherence and permeability of a proposed urban design, comparing block sizes, street connectivity, [Assessment]
Readings : [KropfMorphology2017]	

Unit 3: Human-Centered and Inclusive Design (8 hours)	
Competences Expected: AG-A15	
Topics	Learning Outcomes
• Universal design principles: equitable use, flexibility in use, simple and intuitive operation, perceptible information, tolerance for error, low physical effort, and size • Accessibility standards and codes: ADA, ISO 21542, and regional building codes for accessible routes, ramps, elevators, restrooms, signage, and emergency egress • Spatial user experience: wayfinding, legibility, sensory richness, acoustic comfort, and the design of spaces that support diverse activities, ages, and abilities • Participatory design processes: engaging future users and communities in defining spatial needs; co-design workshops, interviews, and community mapping as design tools	• Describe the principles of universal design and inclusive architecture and explain how they translate into spatial and technical design decisions [Familiarity] • Apply universal design principles and accessibility standards to develop an architectural design that accommodates the full spectrum of human ability, age, and cultural background [Usage] • Evaluate a building or public space design for inclusivity and accessibility, identifying barriers and proposing design modifications to improve equity and user experience [Assessment]
Readings : [Neufert2012]	

Unit 4: Lateral Load-Resisting Systems (10 hours)	
Competences Expected: AG-A08	
Topics	Learning Outcomes
• Horizontal load-resisting systems: moment-resisting frames (rigid connections), braced frames (concentric, eccentric), shear walls (concrete, plywood, CLT), • Floor and roof diaphragms: rigid vs. flexible diaphragm behavior, chord forces, collector elements, and load transfer from diaphragms to vertical lateral-resisting elements	• Identify the primary lateral load-resisting systems - moment frames, braced frames, shear walls - and describe the role of floor and roof diaphragms in transferring lateral loads to them [Familiarity] • Select and configure an appropriate lateral load-resisting system - moment frame, braced frame, or shear wall - for a mid-rise collective-housing building, coordinating it with the floor diaphragm [Usage] • Evaluate a mid-rise building's lateral system for configuration irregularities (soft stories, torsional irregularities) and diaphragm continuity [Assessment]
Readings : [Schierle2012]	

Unit 5: Social Equity and Inclusive Urbanism (8 hours)	
Competences Expected: AG-A02	
Topics	Learning Outcomes
• Spatial justice frameworks: Fainstein's just city (democracy, equity, diversity), Soja's seeking spatial justice, • Gentrification and displacement: stages of gentrification, direct and indirect displacement (exclusionary displacement), anti-displacement strategies (rent control) • Participatory planning and community engagement: Arnstein's ladder of participation (manipulation to citizen control), deliberative methods (planning cell, consensus conference) • Equitable transportation: transit deserts, fare equity, accessibility for persons with disabilities, safe routes for walking and cycling, • Gender-inclusive urbanism: safety audits, lighting and sightlines for perceived safety, access to child-care facilities,	• Identify the main dimensions of spatial justice - distribution, procedure, recognition - and describe how urban planning decisions can produce or mitigate inequitable outcomes [Familiarity] • Apply an equity assessment tool (e.g., equity scorecard, health impact assessment) to an urban development proposal, identifying which populations benefit [Usage] • Evaluate a participatory planning process for authenticity, power-sharing, and representation, recommending changes to increase meaningful participation of marginalized [Assessment]
Readings : [FainsteinJustCity2010]	

8. WORKPLAN

8.1 Methodology

Individual and team participation is encouraged to present their ideas, motivating them with additional points in the different stages of the course evaluation.

8.2 Theory Sessions

The theory sessions are held in master classes with activities including active learning and roleplay to allow students to internalize the concepts.

8.3 Practical Sessions

The practical sessions are held in class where a series of exercises and/or practical concepts are developed through problem solving, problem solving, specific exercises and/or in application contexts.

9. EVALUATION SYSTEM

***** EVALUATION MISSING *****

10. BASIC BIBLIOGRAPHY