

L J School of Architecture
L. J. K. University
Syllabus for Bachelors of Architecture.
Fifth Year | Semester 9

Subject Code: 1001901 | Subject: Architectural Design Studio VIII | Credit: 16

FOCUS: Learn about reading and documenting urban fabric and to understand the idea of urban space. To understand the difference between urban designs as opposed to urban development. To understand the role of architecture in shaping urban fabric and create design which fits into urban context. To understand the needs of privacy, community spaces, efficiency of open spaces and idea of extended living areas.

CONTENTS:

- Studio projects shall be based on considering the principals involved in community architecture.
- Concepts of sustainable architecture and energy efficient buildings reuse recycled and recharging resources such as water, solar bio-resources; can be introduced in the studio design. The design can also be sensitive to the needs of disabled, aged people and children.
 - Multiple functions.
 - Public access to majority of the space,
 - Large-gathering areas, which are open and extendable to the immediate urban context
 - Analyzing structural feasibility of the project to adopt various structural systems for spanning.
- High-rise building Projects like transport interchanges, large retail areas with entertainment areas, transport terminals with commercial areas, performing art center with museums and such multiple functions shall be taken.

Methodology:

- Lectures, Studios, Study tours, documentation, presentation, group work.

Reference:

1. House Form and Culture by Rapoport, Amos
2. Architecture without Architects by Rudofsky, Bernard
3. EVAW by Oliver, Paul
4. Contemporary Architecture in India by Joglekar, M. N.
5. Co-housing by Mc Camant & Durrett
6. Life, Works and Writings of Laurie Baker by Bhatia, Gautam
7. Housing and Urbanization by Correa, Charles

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Subject Code: 1001902 | Subject: Urban Planning | Credit: 2

FOCUS:

Architecture, community/neighborhood design, urban design and urban planning are connected hence architecture, is not an isolated private statement. Rather, it is at once a public (urban) act and a reflection of our understanding of the world at any given moment: i.e., what it might be. It will operate on the premise that public spaces are important to the livability of a city. The public realm quite literally provides the platform for its arts and culture to exist and adds to the desirability of its inhabitants. Developing an understanding of urban context with its schematic abstraction and contemporary manifestations.

CONTENTS:

- Evolution of human settlements & Interpretation of urban forms – historic determinants and settlement types; an overview of landmark developments in conceptual theories related to settlement patterns and the resulting dynamics of changing urban forms and interpretation of urban form as manifested in literature, arts, technology and politics during different stages of time.
- Understanding the term Urban: Definitions and Approaches, looking at how various theorists have defined / understood the “urban” or the “city” as an object of investigation.
- Urbanism & New Urbanism
- Understanding the term Urban Design and inter-relation of Architecture and Urban Design.
- 'Urban Design' as a focus on physical improvement of the public environment.
- Public Realm, definition and understanding the design of Public realm
- City Scape / Town Scape, understanding and analysis
- Understanding of Terminologies such as Tissue, Block, Grains, Porosity, Typology, District, Landmarks.
- Contemporary Planning Process & Mechanisms –significance of land use planning,
- Development Plan & various methods of managing land as TP Schemes etc.

Reference:

- Architecture of Town & Cities, Paul Spreiregen
- Image of the City, Kevin Lynch
- Good City Form,, Kevin Lynch
- Town & Squares, Paul Zucker

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Subject Code: 1001903 | Subject: Architectural Research and Programming| Credit: 4

FOCUS:

To understand concept, need and scope of architectural programming. To develop research skills necessary for programming. To develop the ability to synthesize data/information in order to evolve the pre-design concept. The process must investigate the organizational, social and individual aspects of overt behavior in any social organization.

Programming is the analytical aspect of design. The course focuses on collecting data, procedure, and techniques which can help improve design and practice. Programming is information processing process involving a disciplined methodology of data collection, analysis, organization, communication and evaluation. Programming is basically pre-design service leading in major decision making aiming at improving our built environment in areas of interior architecture, architecture and urban planning and design.

CONTENTS:

- Introduction to programming, Identification of objectives for programming
- Gathering information/ educating client, Process of programming
- The methodology for information gathering, Analysis, organization and interpretation of data/information
- Documentation and presentation of material
- Computer aid in programming
- Projection and forecasting in programming, Case studies of architectural programming
- Post occupancy evaluation
- The students will be required to gather information, data for the particular project. The final submission of the report will incorporate analysis, interpretation and presentation of the collected material along with conceptual pre-design strategy.

Reference:

- Architectural programming, Kumlin, Robert R.
- The architect's guide to programming, Palmer Mickey A.
- The impact of the client organization on the programming process, Faberstein, Jay (Edited by Wolfgang Preiser, Van Nostrand Reinhold)
- Architectural programming: Information Management for Design Duerk, Donna P. (Van Nostrand Reinhold)
- Behavioral Research Methods in Environmental Design Michaelsin, William Hutchinson Ross)
- Problem seeking: An Architectural Programming primer Pena, William M. (AIA Press)

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Subject Code: 1001904 | Subject: Design Seminar –II | Credit: 4

FOCUS:

The Design Seminar focuses on various Architectural / Social / Cultural issues pertaining to the Community Planning, Urban Planning or Urban Design. The Focus will be to debate / discuss these issues in the classroom as well as general participatory discussions. The students will be doing research on the themes chosen for the seminar.

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Subject Code: 1001905 | Elective IV : Sociology, Culture & Built Environment | Credit: 2

FOCUS:

To develop sensitivity amongst the students about the changing nature of community, social inequality, political power, socio-spatial change, technological change, and the relationship between the built environment and human behavior; by examining the key theoretical paradigms that have constituted the field since its founding, assess how and why they have changed over time, and discuss the implications of these paradigmatic shifts for urban scholarship, social policy and the planning practice.

CONTENTS:

- Society:
- Culture:
- Language:
- Values:
- Social Organization:
- Status:
- Role:
- Institutions:
- Social Structure:
- Agency:
- Identity:
- Inequality:
- Social Stratification:
- Race:
- Ethnicity:

Reference:

- Fainstein, Susan, and Scott Campbell. Readings in Urban Theory. Malden, MA: Blackwell Publishing Limited, 2002. ISBN: 9780631223450.
- Legates, Richard, and Frederick Stout. The City Reader. New York, NY: Routledge, 2007. ISBN: 9780415770842.
- Merrifield, Andy. Metromarxism: A Marxist Tale of the City. New York, NY: Routledge, 2002. ISBN: 9780415933490.
- DeFilippis, James. Unmaking Goliath: Community Control in the Face of Global Capital. New York, NY: Routledge, 2003, pp. 17-60. ISBN: 9780415945257.

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Subject Code: 1001906 | Elective IV : Energy Efficient Architecture | Credit: 2

FOCUS:

- To inform the need to use alternative sources of energy in view of the depleting resources and Climate change.
- To familiarize the students with simple and passive design considerations
- To inform about the importance of day lighting and natural ventilation in building design
- To make the students aware of the future trends in creating sustainable built environment.

CONTENTS:

- Significance of Energy Efficiency in the contemporary context, Simple passive design
- Considerations involving Site Conditions, Building Orientation, Plan form and Building Envelope -
- Heat transfer and Thermal Performance of Walls and Roofs
- Direct Gain Thermal Storage of Wall and Roof - Roof Radiation Trap - Solarium - Isolated Gain
- Evaporative Cooling - Nocturnal Radiation cooling - Passive Desiccant Cooling – Induced Ventilation - Earth Sheltering - Wind Tower - Earth Air Tunnels
- Daylight Factor - Daylight Analysis - Daylight and Shading Devices - Types of Ventilation - Ventilation and Building Design.
- Areas for innovation in improving energy efficiency such as Photo Voltaic Cells, Battery Technology, Thermal Energy Storage, Recycled and Reusable Building materials, Nanotechnology, smart materials and the future of built environment, Energy Conservation Building code.

Reference:

- Manual on Solar Passive Architecture, IIT Mumbai and Mines New Delhi, 1999
- Arvind Krishnan & Others, "Climate Responsive Architecture", A Design Handbook for Energy Efficient Buildings, TATA McGraw Hill Publishing Company Limited, NewDelhi, 2001
- Majumdar M, "Energy-efficient Building in India", TERI Press, 2000.
- Givoni .B, "Passive and Low Energy Cooling of Buildings", Van Nostrand Reinhold, New York, 1994
- Fuller Moore, "Environmental Control Systems", McGraw Hill INC, New Delhi – 1993
- Sophia and Stefan Behling, Sol power, "The Evolution of Solar Architecture", Prestel, New York, 1996
- Patrick Waterfield, "The Energy Efficient Home: A Complete Guide", Crowood press ltd, 2011.
- Dean Hawkes, "Energy Efficient Buildings: Architecture, Engineering and Environment", W.W. Norton & Company, 2002
- David Johnson, Scott Gibson, "Green from the Ground Up: Sustainable, Healthy and Energy efficient home construction", Taunton Press, 2008

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Subject Code: 1001907 | Elective IV : Computer Applications in Architecture | Credit: 2

FOCUS:

- The focus would be on the application of the advanced technology in the design, execution, management and maintenance of the architectural built environment.

CONTENTS:

- Advance Graphical Instrument
- Digital devices used for design, construction and post occupational needs.
- Analysis of various phases involved in architectural product.

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Subject Code: 1001908 | Elective IV : Heritage & Conservation | Credit: 2

FOCUS:

Developing awareness and sensitivity towards building heritage ,History of Conservation and its significance, Role of architect in Conservation Criteria for listing Heritage building, Critical appraisal of status of the building/buildings, Grading of Historic settlements Factors for deterioration of building Conservation and preservation techniques of existing usage ,Adaptive reuse of a building.

Main objective will be to document the heritage of our city and make guidelines, policies, conservation plans for built heritage structures, Heritage precincts and region with respect to its economic viability and spread awareness in the students through workshops which will help in sustainable development of the societies.