

# **L J School of Architecture**

**L. J. K. University**

Syllabus for Bachelors of Architecture.

Second Year | Semester 4

**Subject Code: 1001401|Subject: Architectural Design Studio IV| Credit: 12**

## **Course Content:**

- Understanding and designing Individual Urban Residential Unit – Module I.
- Understanding and designing Individual Institutional setup – Module II.
- Both the modules shall encompass the following:
  1. Understanding the institutional character
  2. Organization and disposition of spaces.
  3. Relationship of different functional, service and movement areas.
  4. Diversity of user groups, circulation routes.
  5. User group needs and client requirements.
  6. Influence of culture, climate & technology.
  7. Site planning/layout/zoning/ circulation.
  8. Landscaping.

## **Methodology:**

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

## **Reference:**

1. Corbusier, Le :Towards New Architecture, Dover Publications Inc , New York
2. De Bono, Edward: Lateral thinking, Harper Collins Publishers
3. Rapoport, Amos :House ,form and Culture, Prentice Hall, Englewood Cliffs, N.J ,1969
4. D.K.Ching, Francis: Form Space & Order, John Wiley & Sons

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Second Year | Semester 4

**Subject Code: 1001402 | Subject: Building Construction Techniques - IV | Credit: 06**

## **Course Content:**

- Introduction to fundamental of RCC construction
- Hollow walls: Cavity walls in bricks and Hollow concrete blocks.
- To understand the maintenance, quality assessment, repair and additions alteration required in buildings.
- Temporary support systems required during the construction stage, repair works and modifications in buildings
- Formwork, scaffolding, shoring and strutting for the building
- Different kind of joints required in buildings
- Building Services: Electrical

## **Methodology:**

- Lectures, Studios, drafting, case-studies, sketching, Site visit, Model making, presentation, group work.

## **Reference:**

1. National Building Code for India. Bureau of Indian Standards, Latest Edition
2. Engineering Materials, Rangwala S.C, Charotar Publishing House
3. Building Construction, Punmia B.C., Laxmi Publishing
4. Building Construction, Arora, S.P., Bindra, Dhanpat Rai publications
5. Building Construction, Mackey W.B, Orient Longman
6. Fundamentals of Building Construction, Allen Edward, John Wiley & Sons Inc, Somerset, New Jersey, U.S.A., 1998
7. Electrical Wiring Estimating & Costing, S. L. Uppal (Khanna Publications), New Delhi
8. F. Hall, Building Services and Equipment, Volume 1, 2, 3, Routledge, 3rd Edition, 1994
9. Mark Karlen, James R. Benya, Christina Spangler, "Lighting Design Basics, John Wiley & Sons, 2012

# **L J School of Architecture**

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Second Year | Semester 4

**Subject Code: 1001403 | Subject: Structure IV | Credit: 02**

## **Course Content:**

- Design of Beams: Singly and Doubly reinforced beam,
- Design of Slab: One Way slab, Two Way slab, One Way and two way Continuous slab (based on studio drawings)
- Design of Column: Axially Loaded (only),
- Design of Isolated footing (Only axial loaded) other types of footing drawing.
- Design of stair case (Waist slab type) (based on studio drawings)

## **Methodology:**

- Lectures, Site Visits, case-studies, presentation, group work.

## **Reference:**

1. Strength of Material, RK Bansal, Laxmi Publications, New Delhi
2. Application Mechanics and Strength of Materials, IB Prasad, Khanna Publications, New Delhi
3. Engineering Mechanics, statics & Dynamics, Desai & Mistry, Mac Millan Publishing Co
4. Vector mechanics for engineers- statics, Bear & Johnston, Mcgrewhill
5. Applied Mechanics, Junarkar & H.J. Shah, Charotar Publishing House Seeking structure from nature, Jeffery Cook, BirkHauser

# **L J School of Architecture**

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Second Year | Semester 4

**Subject Code: 1001404 | Subject: History of Architecture II | Credit: 02**

## **Course Content:**

- Characteristics of Islamic Architecture, origin and development, elements
- Beginnings of Islamic Architecture in India: Mosque (Masjid), Mausoleum (Maqbarah), Mortuary Complex (Rauza)
- Indo Islamic Architecture in India: Imperial Architecture of Delhi, including Slave dynasty, Khilji dynasty, Tughlak dynasty, Sayyid dynasty, Lodhi dynasty.
- Mughal Architecture of India– characteristics, styles, features of different periods and its blend on other styles and vice-versa. Mughal gardens.
- Provincial Style Architecture: Development of regional styles in various provinces such as Bengal, Jaunpur, Gujarat, Mandu, Deccan, Malwa and Bijapur during Islamic rule.

## **Methodology:**

- Lectures, presentation, group work exercises.

## **Reference:**

1. Indian Architecture – Islamic, Percy Brown, Taraporewala Publications
2. Indian Architecture – Islamic, Grover Satish, Vikas Publishing House
3. History of Architecture, Sir Banister Fletcher, Architectural Press
4. Christopher Tadgell, “History of Architecture”
5. Francis D.K.Ching, “A Global History of Architecture”, John Wiley and Sons.

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Second Year | Semester 4

**Subject Code: 1001405 | Subject: Landscape Architecture | Credit: 02**

## **Course Content:**

- Ecology, Environment, Components, Ecosystem at various levels, conservation of natural resources, rainwater harvesting
- Elements of Landscape: Landforms, plant materials, water, rocks, lighting etc
- Types of soils, plant materials, trees, shrubs, ground covers, creepers (flowering and nonflowering), rocks, stones and water bodies
- Surfacing Materials, landforms, manmade elements.
- Historical and contemporary attitudes to landscape in Indian and other context.
- Principles of landscape design: surfacing, enclosure vistas, visual corridor, composition of plant and other material, etc.
- Preparing landscape design presentation drawing (using symbols etc.), construction details and different schedules
- Documentation of case studies and best practices in landscape architecture across the world
- Study and Presentation of recent concepts/innovations/explorations

## **Methodology:**

- Lectures, presentation, group discussions.

## **Reference:**

1. Landscape architecture, J .O. Simonds, Landscape architecture
2. The landscape we see, Garrett Eckbo, Mcgrewhill
3. With people in mind: design and management of everyday nature, Kaplan, R., Kaplan, S., Ryan, R, Island Press Washington DC
4. M. Laurie, "Introduction to Landscape Architecture" Elsevier, 1986
5. Norman, "Residential Landscape Architecture: Design process for the Private Residence", Booth, Prentice Hall, 2012.

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**Subject Code: 1001406 | Subject: Building Regulations - I | Credit: 02**

## Focus:

This course examines role of building regulations laid out by local body in molding the character of urban built form. It also examines the role of building regulations into controlling haphazard urban development and maintaining key planning aspects of safety, health & hygiene of citizens and sustainability. Objective of introducing this course is to; briefly expose students to development permission process of local building authority.

## Course Content:

- Brief introduction to IS codes and NBC.
- Development regulations related to zoning, land use, site planning and building standards like lot sizes, minimum road widths, FSI, building height, Ground coverage, number of floors, setbacks and margins, open spaces, parking etc.

## References:

- National Building Code of India
- Final Comprehensive GDCR, Gujarat
- Urban and Regional Planning in India: A Handbook for Professional Practice, S. K. Kulshrestha
- Town Planning: Principles, Process and Practice by [A.K. Jain](#)
- [Urban Planning Theory and Practice, M.](#) Pratap Rao

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**Subject Code: 1001407 | Subject: Computer Applications - III | Credit: 02**

**Course Content:**

- Introduction to Adobe Photoshop.
- Presentation techniques in Photoshop.
- Integration of Autocad, Sketchup & Photoshop.
- Introduction to Indesign.
- Integrating all the 4 softwares.

**Methodology:**

- Lectures, presentation, Computer Lab lectures & presentations, practice sessions.

**References:**

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Second Year | Semester 4

**Subject Code: 1001408 | Subject: Online Course – I | Credit: 02**

## **Course Content:**

- Online Course specific to Architecture, Architectural Design, Sustainability, Sustainable Architecture, Vernacular Architecture, Traditional Architecture, can be taken up for this semester.
- More stress on Sustainable and Vernacular Architecture.

## **Methodology:**

- Attending Online lectures.
- Completing the online exercises.
- Submission of all the exercises and their content.
- Presentation of the learning from the online course through powerpoint presentation.