

L J School of Architecture

L. J. K. University

Syllabus for Bachelors of Architecture.

First Year | Semester 2

Subject Code: 1001201 | Subject: Architectural Design Studio II | Credit: 08

Course Content:

- Understanding significance and impact of the climatic factors and Building material in Architecture.
- Developing an understanding of Climate responsive architecture
- Understand the concept of space and place
- Understand the Elements of space making (how a space becomes place) and the various parameters affecting the quality of space.
- Developing the understanding of co-relation between material, structure and form. Understand the Form in relation to the regional climate and material used and the function of the space.
- Study the exploration of space design principles and resultant form and scale by Observation

Methodology:

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

Reference:

1. Bovill, Carl. Fractal, Geometry in Architecture and Design. Boston: Birkhäuser, 1996. Print.
2. Dodds, George, Robert Tavernor, and Joseph Rykwert. Body and Building: Essays on the Changing Relation of Body and Architecture. Cambridge, MA: MIT, 2002. Print.
3. Yee, Rendow. Architectural Drawing: A Visual Compendium of Types and Methods. Hoboken, NJ: J.Wiley, 2003. Print.
4. Rich, Peter Maurice., and Yvonne Dean. Principles of Element Design. Oxford: Aechitectoral, 1999.Print.

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First Year | Semester 2

Subject Code: 1001202 | Subject: Basic Design II | Credit: 04

Course Content:

- Study the visual elements of design and develop design Expression skills
- Understanding of fundamentals of the principles of aesthetics
- Relationship of basic design to architectural design
- Analytical reasoning and criteria for judgment of design
- Developing design vocabulary
- Explore colour scheme and its application on architectural form and space
- Explore the composition of the different forms in 3D with different materials, colours, textures to understand the nature and property of materials

Methodology:

- Studios, Model making, presentation, group work.

Reference:

1. Aldo Tanchis and Huw Evans. Bruno Munari, Design as Art. Cambridge: MIT Press, 198
2. White, Alex (2011). The Elements of Graphic Design. New York, NY: Allworth Press. pp. 81105. ISBN 978-1- 58115-762-8.
3. Arthur L Gupthill, Drawing and Sketching in Pencil; Courier Corporation 2012. ISBN 0486136485, 9780486136486

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First Year | Semester 2

Subject Code: 1001203 | Subject: Building Construction Techniques II | Credit: 04

Course Content:

- Exploration of all the building elements – from foundation to parapet
- Concern with appropriateness of materials to context
- Introduction to the Load bearing system of construction (Brick & Stone masonry)
- Understanding the Building Elements:
 1. Foundations – Types of foundation
 2. Arches
 3. Lintels and Weather sheds
 4. Doors & Windows
 5. Staircases.
- Building Materials may include – Cement, Concrete, Metal, Glass, Timber, etc.

Methodology:

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

Reference:

1. Ash, Ahmed. Materials science in construction: an introduction. London: Taylor & Francis, 2015
2. Agrawal, B. K.. Introduction to Engineering Materials. New Delhi: Tata McGraw Hill Education Ltd.,2013.
3. Bhavikatti, S. S.. Materials of Construction Vol - 2. New Delhi: I. K. International Publishing House Pvt. Ltd., 2014
4. Charleson, Andrew. Structure as architecture: Source book for architects and structural engineers .London: Taylor & Francis, 2015
5. Gambhir, M. L.. Building Materials: Products, Properties and Systems. New Delhi: Tata McGraw Hill Education Private Limited, 2011
6. Khurmi, R. S.. Strength of Materials: Mechanics of Solids. New Delhi: S. Chand & Company Ltd.,201

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First Year | Semester 2

Subject Code: 1001204 | Subject: Technical Representation Drawing II | Credit: 04

Course Content:

- Perspective drawings using various methods – one point, two point and three point projection
- Sciography

Methodology:

- Lectures, drafting exercises, Model making, presentation, group work.

Reference:

1. Ching, Francis D. K., and Steven P. Juroszek. Design Drawing. New York: Van Nostrand Reinhold, 1998. Print.
2. Censil Jensen. Engineering Drawing & Design. McGraw-Hill
3. George Barnett Johnston., Drafting Culture. The MIT Press
4. Douglas Cooper., Drawing and Perceiving. WILEY
5. Alan Jefferis, David A. Madsen, David P. Madsen. Architectural Drafting & design. Delmar Cengage Learning

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First Year | Semester 2

Subject Code: 1001205 | Subject: Climatology I | Credit: 02

Course Content:

- Introduction to Climatology - Global climate factors
- Elements of climate
- Understand Climate and Comfort Zones - Classification of climatic zones
- Solar Geometry, its effect & importance
- Understand Passive means for various climatic zones: Orientation, Massing/Form, Fenestration Design
- Built Environment, conditions, impact and issues of climatic balance in traditional/vernacular and contemporary built environments.
- Macro and Micro Climate

Methodology:

- Lectures, presentation, group discussions.

Reference:

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First Year | Semester 2

Subject Code: 1001206 | Subject: Structure II | Credit: 02

Course Content:

- Conceptual understanding of structural behavior
- Understanding of Bending of beams and diagrams of shear force & bending moment.
- Different types of stress on structural members.
- Study the types of loads and learn the mechanism of transfer of load
- Trusses
- Center of Gravity & Moment of Inertia

Methodology:

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

Reference:

1. Theory of Structures by S. Ramamrutham
2. Structure & Architecture by Angus J Macdonald
3. Salvadori's Structure in Architecture by Robert A. Heller
4. Structure as Architecture: A source book for architects and structural engineers by Andrew Charleston

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First Year | Semester 2

Subject Code: 1001207 | Subject: Humanities II | Credit: 02

Course Content:

- Pre-Historic settlements and Civilizations, their socio-economic scenario, Architectural advancements including the influence of local geographical and climatic conditions.
- Ancient World Civilizations (Chinese, Greek, Romans, Persians)
- Cultural influence over life style and Architecture
- Influence of local Climate and geographical conditions on Materials and Architectural design

Methodology:

- Lectures, presentation, group work exercises.

Reference:

1. Giddens, Anthony, Introduction to Sociology. New York: W.W. Norton, 1996. Print.
2. Toynbee, Arnold. Mankind and Mother Earth: A Narrative History of the World. New York: Oxford UP, 1976. Print.
3. Soergel, Philip M. Arts & Humanities through the Eras. Detroit: Thomson Gale, 2005. Print.
4. Pearce, F. G. An Outline History of Civilization. Bombay: Oxford U.P., 1965. Print.
5. Majumdar, Ramesh Chandra. The History and Culture of the Indian People. Mumbai: Bharatiya Vidya Bhavan, 1996. Print.

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First Year | Semester 2

Subject Code: 1001208 | Subject: Computer Applications - I | Credit: 02

Course Content:

- Introduction to Autocad.
- Understanding 2 dimensional drafting in Autocad.
- Study of various commands and tools for drafting.
- Preparation of two dimensional architectural drawings (including plans, elevations and sections) incorporating layers, line-weights, texts, dimensioning and formatting of drawings for taking prints and plots.
- More stress on 2 dimensional drafting commands and their various uses.

Methodology:

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

Reference: