NIRMA UNIVERSITY

Institute of Architecture and Planning

Bachelor of Architecture

Semester-I

L	W	S	C
2	2	-	3

Course Code	2AR174
Course Title	Architectural Graphic Skills & Representation–I

Course Learning Outcomes (CLO):
At the end of the course, students will be able to –
- Make use of Orthographic Projection Drawing as a representation tool & medium of effective visual communication.
- Appraise skills of visualization
- Maximize the potential of two-dimensional drawing as tool of design development and representation.

Syllabus: **15 weeks (4 hours/week)**   **Total Teaching hours**: **60 Hr**

Unit No.	Syllabus: Topic	Sub Topic	Teaching hours: (Weeks)
1	Geometrical Construction	• Constructing and dividing lines and angles • Constructing and dividing circles and arcs • Constructing Regular Polygons	10 hours
2	Orthographic Projection and Isometric views	• Orthographic projection and auxiliary projection • Axonometric views, isometric views, and other views. • Projections of points, Lines and Planes • Projections of solids (Prisms & Pyramids) • Tilted Objects • Sections of Solids • Interpenetrations of Solids (Basic)	30 hours
3	Development of Surfaces	• Introduction of D.O.S • Regular Polygons and Platonic Solids • D.O.S of hip roof & Gable roofs	10 hours

		• D.O.S of sectioned objects	
4	Allied Techniques (Part 1 of 2)	• Visualization Software (Sketch-UP, Rhino or equivalents) • Model Making • Various free hand sketching exercises to strengthen visualization and representation.	10 hours

L= Lecture, W= Workshop, S= Studio, C= Credit

Suggested Readings:

1. Bhatt, N. D. (2014). *Engineering Drawing: Plane and Solid Geometry*. Anand: Charotar Publishing House Pvt.
2. Ching, F. D. (2015). *Architectural graphics*. Hoboken: John Wiley & Sons.
3. Ching, F. D., & Juroszek, S. P. (2018). *Design drawing*. Hoboken, NJ: John Wiley & Sons.
4. Chopra, A., Town, L., & Pichereau, C. (2013). *Introduction to Google Sketchup*. New York: Wiley.
5. Cooper, D. (2007). *Drawing and perceiving: Life drawing for students of architecture and design*. Hoboken: Wiley.
6. Donley, M., & Sonder, N. (2016). *SketchUp & LayOut for architecture: The step-by-step workflow of Nick Sonder*. Bristol, RI: Bizfound.
7. Helsel, J. D. (2007). *Engineering drawing and design*. Place of publication not identified: Glencoe Mcgraw-Hill Post.
8. Johnston, G. B. (2008). *Drafting culture: A social history of architectural graphic standards*. Cambridge, MA: MIT Press.
9. Torossian, A., & Brigham, G. B. (1937). *Architectural graphics; orthographic projection, the principal branch of descriptive geometry*. Ann Arbor, MI: Edwards letter shop.