

# NIRMA UNIVERSITY

## Institute of Architecture and Planning

### Bachelor of Architecture

#### Semester-IV

<b>L</b>	<b>W</b>	<b>S</b>	<b>C</b>
<b>1</b>	<b>2</b>	<b>-</b>	<b>2</b>

<b>Course Code</b>	<b>2AR464</b>
<b>Course Title</b>	<b>Architectural Graphic Skills &amp; Representation-IV</b>

#### **Course Learning Outcomes (CLO):**

At the end of the course, students will be able to –

- Develop the understanding of parametric design & digital fabrication
- Maximize the understanding of digital three-dimensional modeling by further exploring computer as a tool for architectural representation.
- Create Architectural Visualization & Develop 3D Rendering of computer generated model.

**Syllabus: 15 weeks (3 hours/week)**

**Total Teaching hours: 45Hr**

<b>Unit No.</b>	<b>Syllabus: Topic</b>	<b>Sub Topic</b>	<b>Teaching hours:</b>
1	Parametric Design (Rhino-Grasshopper or Equivalent)	<ul style="list-style-type: none"><li>• Introduction to Parametric Design</li><li>• Small Design (or Installation) Project</li></ul>	18 hours
2	Digital Fabrication	<ul style="list-style-type: none"><li>• Introduction to Digital Fabrication &amp; its applications</li><li>• Introduction to 3D printing</li><li>• Small Design (or Installation) Project</li></ul>	15 hours
3	3D Max, V-Ray or equivalent software	<ul style="list-style-type: none"><li>• Generating 3D rendered visualization (understanding Material, Texture, Natural Light, Artificial Light etc)</li></ul>	12 hours

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

## Suggested Readings:

1. Bachman, D. (2017). *Grasshopper: Visual scripting for Rhinoceros 3D*. South Norwalk (CT): Industrial Press.
2. Dunn, N. (2012). *Digital fabrication in architecture*. London: Laurence King.
3. Farrelly, L. (2008). *Representational techniques*. Lausanne: AVA Book.
4. Hogrefe, A. (2016). *Visualizing architecture volume 4: Architecture portfolio*. Boston, MA: Alex Hogrefe Visualization LLC.
5. Jabi, W. (2013). *Parametric design for architecture*. London: Laurence King Publishing.
6. Jongh, R. (2010). *Sketchup 7.1 for architectural visualization: Beginners guide*. Birmingham, UK: Packt Publishing.
7. Kuhlo, M., & Eggert, E. (2017). *Architectural rendering with 3ds Max and V-Ray: Photorealistic visualization*. New York: Focal Press.
8. Tal, D. (2013). *Rendering in Sketchup: From modeling to presentation for architecture, landscape architecture and interior design*. Hoboken, NJ: Wiley.
9. Tedeschi, A. (2010). *Parametric Architecture with Grasshopper: Primer*. Brienza: Le Penseur.