NIRMA UNIVERSITY
INSTITUTE OF DESIGN
PRODUCT AND INTERACTION DESIGN
Semester III

Institute:	**INSTITUTE OF DESIGN**
Name of Programme:	**BACHELOR OF DESIGN**
Course Code:	2DD106CC25
Course Title:	**Manufacturing Processes -I**
Course Type:	(■ **Core**/ Value Added Course/ Departmental Elective/ Institute Elective/ University Elective/ (Open Elective /Any other)
Year of introduction:	**Academic Year 2025-26**

L	**T**	**Practical component**				**C**
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Course Learning Outcomes (CLO):
At the end of the course, the student will be able to:

1. Analyze and understand the properties, characteristics, and limitations of clay and wood as materials for design and fabrication. (BL1, BL2)
2. Apply, Understand and Evaluate the fundamentals of clay processing techniques, showcasing practical skills in shaping and finishing. (BL2, BL3, BL4)
3. Demonstrate foundational woodworking techniques, showcasing practical skills in cutting, shaping, and joining wood. (BL2, BL3)
4. Create integrated design prototypes using both materials while applying design-thinking principles by Integrating manufacturing techniques into products. (BL3, BL5, BL6)

Total Teaching hours: 75

Unit	**Content**	**Teaching hours**
Unit 1	**Introduction to Clay and Wood Materials** ● Overview of manufacturing processes ● Types of clay and wood ● Properties and characteristics of materials ● Tools and safety instructions	10
Unit 2	**Clay Processing Techniques** ● Hand-building techniques (coil, slab, pinch)	20

- Introduction to Wheel throwing basics (Optional)
- Surface Decoration Techniques

Unit 3	**Woodworking Skills**	20

- Basic techniques like cutting, joining, sanding, wood turning etc
- Joinery techniques (dovetails, mortise and tenon etc.)
- Finishing and surface treatment

Unit 4	**Integration and Application of Techniques**	25

- Combining clay and wood in design projects
- Prototyping and iterative design processes
- Presentation and feedback techniques

Self Study	
Suggested Readings/ References	**Books on Clay** • Colbeck, J. G. (1995). *The Potter's Handbook*. John Wiley & Sons. • Leach, B. (1976). *The Potter's Book*. Faber & Faber. • Lucie-Smith, E. (1980). *The Story of Ceramics*. Thames & Hudson. **Books on Wood** • Black, J. (2005). *The Complete Manual of Woodworking*. The Taunton Press. • Krenov, J. (1994). *The Woodworker's Companion*. Taunton Press. • Walker, P. (2003). *Understanding Wood: A Craftsman's Guide to Wood Anatomy, Structure, and Identification*. Timber Press.
Industry Visits	To be planned during the course to relevant industries.

w.e.f. Academic Year 2025-26 and onwards