INSTITUTE OF DESIGN
Nirma University
Product and Interaction Design, Semester VI

Institute:	**Institute of Design**
Name of Programme:	**Bachelor of Design**
Course Code:	**3DD312ME26**
Course Title:	**Furniture Design I**
Course Type:	(☐ Core/ ☐ Value Added Course/ ■ Departmental Elective/ ☐ Institute Elective/ University Elective/(Open Elective Any other)
Year of introduction:	**Academic Year 2026-27**

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Course Learning Outcomes (CLO):

At the end of the course, the student will be able to:

1. Understand furniture typologies, materials, construction systems, ergonomics, anthropometric standards for furniture design (BL 2)
2. Apply a human-centered design process to develop furniture concepts addressing user, context and function (BL 3)
3. Develop furniture proposals using sketches, low fidelity models, full scale orthographic drawings, CAD drawings, material and joinery exploration and prototype making (BL 6)
4. Evaluate furniture solutions based on intended usability, sustainability, manufacturability and product aesthetics (BL 5)

Syllabus: **Total Teaching hours: 90 Hrs.**

Units	Content	Teaching hours
Unit 1	**Fundamentals of Furniture Design:** • Evolution and classification of furniture • Furniture typologies for residential, institutional and public spaces • Anthropometry, ergonomics and universal design principles • Furniture materials: solid wood, engineered wood, metals, polymers and composites • Joinery systems, fittings and hardware • Manufacturing methods for various materials • Sustainable furniture design principles	**18 Hrs.**
Unit 2	**Furniture Product Project:** • User research, contextual inquiry and market study • Design brief formulation based on target user group, functional requirements and design objectives • Ideation and concept development • Material exploration, manufacturing methods, joinery systems, hardware and construction	**30 Hrs.**

	techniques • Design development through scale models, mock-ups and CAD modelling • Technical drawings for prototype making	
Unit 3	**Prototype Development, Manufacturing and Evaluation:** • Prototype development and fabrication • Surface finishing and detailing • Production planning, cost, manufacturability and sustainability • User testing and evaluation • Prototype refinement • Technical documentation	**42 Hrs.**

Self-Study	**Maintain a journal of the following:** • Study significant Indian and international furniture designers • Observe furniture materials, joinery and construction details • Analyse furniture for ergonomics and anthropometric suitability • Study examples of sustainable and manufacturable furniture
Suggested Readings/ References	**Books** 1. Lawson, S. (2013). *Furniture design: An introduction to development, materials and manufacturing*. Laurence King Publishing. 2. Fiell, C., & Fiell, P. (2017). *1000 chairs* (2nd ed.). Taschen. 3. Papanek, V. (2019). *Design for the real world: Human ecology and social change* (3rd ed.). Thames & Hudson. 4. Ashby, M. F., & Johnson, K. (2014). *Materials and design: The art and science of material selection in product design* (3rd ed.). Butterworth-Heinemann. 5. Thompson, R. (2007). *Manufacturing processes for design professionals*. Thames & Hudson. 6. Smardzewski, J. (2015). *Furniture design*. Springer. **Online Resources** Explore the works of renowned furniture designers. **Indian Furniture Designer:** 1. Gajanan Upadhyay **Finnish Furniture Designers:** 1. Alvar Aalto 2. Antti Nurmesniemi **Swedish Furniture Designer** 1. Brono Mathsson **Danish Furniture Designers:** 1. Paul Kjaerholm 2. Hans J Wegner 3. Verner Panton 4. Borg Morgensen 5. Kaare Klint

	6. Arne Jacobsen **German Furniture Designers:** 1. Marcel Breuer 2. Ludwig Mies Van Der Rohe 3. Michael Thonet **American Furniture Designers:** 1. Charles Eames 2. George Nakashima 3. Hary Bertoia 4. Eero Saarinen

w.e.f. AY 2026-27 onwards