



GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Design Syllabus

Subject Code : 1110005

Subject Name : Material & Processes

WEF Academic Year :	2023-2024
Semester :	1
Category of the Course :	Core

Rationale :

The course aims to develop understanding, skills and sensitivity to various material explorations using tools and techniques to be applied in their manipulation to desired outcomes. The insights into unique properties and behavior of different materials through hands-on working and explorations forms the basis essential for future application of these materials in design of products, objects and design prototypes undertaken in subsequent studies and practice

Course Scheme :

Teaching Scheme			Total Credits	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Practical		
				ESE (E)	PA(M)	ESE (V)	PA (I)	
1	0	2	2	0	30	50	20	100

Course Content: Elective 1: Material & Processes

Sr. No.	Course Content	No. of Hours	% of Weightage
1	Unit I: Understanding Linear, Planer and Solid materials - Lecture and tutorials to understand different types of forms in which different materials exist like yarn, fabrics, wire, sheets, rods, pipes, solids, logs etc and various systems of measurements, specifications, and dimensional aspects. Exposure to materials like cotton, wool, synthetic yarn, ferrous and nonferrous metals, paper, wood, plastics and their available forms through market visits. Properties of these materials and their original sources as well as forms in which they are sourced before processing.	10	33.33
2	Unit II: Basic Materials Exploration - Explorations of materials like yarn, wire, sheet and solids through manipulation of their unique properties with basic tools and techniques into distinct forms with a focus on quality of finish and workmanship.	10	33.33
3	Unit III: Materials and objects - Study and documentation of unique existing products/objects that exemplify distinct properties of any material.	10	33.33
Total		30	100

Reference Book:

1. The Complete Manual of Woodworking: A Detailed Guide to Design, Techniques, and Tools for the Beginner and Expert Paperback – 3 December 1996\
by Albert Jackson(Author), David Day
3. Woodworking Basics: Mastering the Essentials of Craftsmanship Tauntan Press, 2014
by Peter Korn(Author)
5. Tesolin, Vic, The Minimalist Woodworker: Essential Tools and Smart Shop Ideas for Building with Less Paperback – November 15, 2015
6. Driggs, Helen, Metal Jewelry Workshop: Essential Tools, Easy-to-Learn Techniques, and 12 Projects for the Beginning Jewelry Artist Step-by-Step Photos for Designs using 12 Simple Hand Tools, Fox Chapel Publishing, 2018
7. Lipton, Tom, Metalworking, Doing It Better, Industrial Press, Inc, 2013.
8. Oldridge, Les,Basic Benchwork: No. 18 (Workshop Practice) 1998
9. Wolff, Colette, The Art of Manipulating Fabric, 1996
10. Grid Systems in Graphic Design" by Josef Müller-Brockmann
11. Thinking with Type: A Critical Guide for Designers, Writers, Editors, & Students" by Ellen Lupton
12. The Elements of Typographic Style" by Robert Bringhurst
13. Logo Design Love: A Guide to Creating Iconic Brand Identities" by David Airey
14. Visual Language for Designers: Principles for Creating Graphics that People Understand" by Connie Malamed

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level*
01	Provide understanding of different materials and how they can be used in different ways to leverage their unique properties.	
02	Enable students to have familiarity with different specifications of materials and measurement units used in real life.	
03	Develop skills and techniques to effectively apply them in representing design ideas.	
04	Develop precision, skills of using tools, control and sense of quality that any material can be put to	

*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create

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