

GUJARAT TECHNOLOGICAL UNIVERSITY

TEXTILE PROCESSING (28)

TEXTILE DESIGN & COLOUR

SUBJECT CODE: 2132801

B.E. SEMESTER III

Type of course: Textile Processing Engineering

Prerequisite: Zeal to learn the subject

Rationale: This course provides basic idea of colour physics and its physiological/psychological influence on human beings. This subject also covers the fundamental concepts of motifs and fabric designs.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks						Total Marks
L	T	P		Theory Marks			Practical Marks			
				ESE (E)	PA (M)		PA (V)		PA (I)	
					PA	ALA	ESE	OEP		
4	0	0	4	70	20	10	0	0	0	100

Contents:

Sr. No.	Topics	Teaching Hrs	Module Weightage
1.	Elements of Colour:- Light and colour phenomenon. Physical basis of colour emissions, absorption of light. Primary, Secondary and Tertiary Colours. Complementary colours, Hues, Tints and Shades. Colours in combination and colours in contrast. Application of colour to woven fabrics. Influence of fabric characteristics (weave) on appearance of colour. Chromatic circle, colour vision - Pigment theory of colour, colour wheel, etc.	14	27%
2.	Colour Harmony and Colour Modification :- Achromatic Harmony, Monochromatic Harmony, Analogous Harmony, High Key, Low Key, Mid Key Harmony, Change in Hue, Change in Value, neutralised colour.	14	27%
3.	Elements and Principles of Design :- Natural Motif, Decorative Motif, Geometric Motif, Abstract Motif, line, direction, shape, size, texture, value, colour, repetition, alternation, harmony, gradation, contrast, dominance and subordination, unity balance. Origin and basis of patterns from historic and modern fabrics. Survey of designing methods, studio and workshop Techniques. Free hand sketching, enlarging and arrangement of motifs. All over repeating design, half drop, diamond, ogee, weaved line, rectangular drop reverse, sateens, etc.	16	31%
4.	Effect of raw material, weave and finish on the appearance And ornamentation of fabrics.	8	15%

Reference Books:

1. Textile Design & Colour- Grosicki

2. Instrumental Colour Measurements and Computer Aided Colour Matching for Textiles –
3. H. S. Shah and R. S. Gandhi
4. Textile Colour Mixing- D. Paterson

Course outcome:

After learning the course the students should be able to understand:

1. The basics of color physics and principles of color mixing.
2. The technical aspects in color mixing and various commercial applications.
3. The process of perception of color and various factors affecting the color vision.
4. The technical aspects of source of light, object and observer.
5. The various theories and approaches for color measurement.
6. The problems in measurement of color and need for instrumental color measurement for quantification of color.
7. Troubleshooting in color reproduction and measurement.
8. The importance and principles of textile designing.
9. Various techniques of textile designing.
10. The various factors affecting the overall appearance and ornamentation of fabrics.

List of Open Source Software/learning website: <http://nptel.iitm.ac.in>, World Wide Web, Google Search Engine etc.

ACTIVE LEARNING ASSIGNMENTS: Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide. The best three works should submit to GTU.