GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Engineering

Level: Diploma

Branch: Textile Design

Course / Subject Code: DI03059041

Course / Subject Name: Fabric Design-II

w. e. f. Academic Year:	2024-25
Semester:	3rd
Category of the Course:	PCC

Prerequisite:	Basic knowledge about loom weaving and its function, knowledge about fabric design 1 subject with skills to create basic weave design patterns on paper and woven sample, interest in weave design patterns and willingness to create compound woven design for fabrics using principles of woven design and fabric structure.
Rationale:	Fabric design is the process of creating patterns, designs and structures for woven fabrics. It involves producing fabric used in clothing (Sarees, Kurta, salwar, dupatta, pants, shirts, etc.), household textiles (curtains, bedcovers, sofa covers, table covers, etc.), towels and decorative textiles. It is a creative field that bridges fashion design, carpet manufacturing and any other cloth related field. The Textile designers should have knowledge of different types of weave design and fabric structure for the process of fabric manufacturing for different end uses. This will assist them to create designs during fabric production. This subject provides knowledge regarding construction of different types of compound weave design on point paper, fabric structure, as well as analysis of weave design and different fabric parameters for different end uses.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	Classify various types of compound fabric structure.	U & N
02	Create advanced woven patterns with weave design, draft and lifting plan.	C
03	Interpret the type of given woven structure and create fancy weave designs.	N, C
04	Create weave design patterns for specific end use application.	C

**Revised Bloom's Taxonomy (RBT)*

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Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
				Theory		Tutorial / Practical		
L	T	PR	C	ESE (E)	PA(M)	PA(I)	ESE (V)	
3	0	2	4	70	30	20	30	150

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	**Introduction to compound weave design** 1.1 Classification of compound weave design 1.2 Method of representation of compound weave design 1.3 Creation of compound weave design on point paper 1.4 Collection and analysis of compound woven fabric structure	9	10
2.	**Development of compound weave design** 2.1 Barley Corn weave 2.2 Stitched Hopsack weave 2.3 Twilled Hopsack weave 2.4 Mock Leno weave	9	25
3.	**Development of fancy weave design** 3.1 Diamond weave 3.2 Diaper weave 3.3 Honey comb weave 3.4 Huck-a-back weave	9	25
4.	**Development of weave design patterns for specific end use** 4.1 Introduction to weave designs for specific end use 4.2 Development of corded structure	9	20

	4.3 Corkscrew weave 4.4 Bed ford cord weave		
5.	**Development of weave design patterns for special application** 5.1 Development of Gauze and Leno structure 5.2 Technique of manufacturing 5.3 Top Douping structure 5.4 Bottom Douping structure	9	20
	Total	**45**	**100**

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks(in %)					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
15	**15**	**25**	**15**	**-**	**30**

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

S. No.	Title of Book	Author	Publication with place, year and ISBN
1	Watson's Textile Design and Colour: Elementary Weaves and Figured Fabrics	William Watson and Z Grosicki	Woodhead CBSPD,1975, New Dehli, ISBN: 978-1855739956
2	Advanced Textile Design and Colour	William Watson and Z Grosicki	Woodhead CBSPD,1977, New Dehli, ISBN: 978-1855739963
3	Grammer of Textile Design	Harry Nisbet	Wentworth Press, 1906, ISBN: 978-1362902478
4	Elementary Textile Design and Fabric Structure	John Read	Read Books, 1931, ISBN:978-1447401100
5	Woven Textile Design	Jan Shenton	Laurence King Publishing, 2014, ISBN: 978-1780673370

(b) Open source software and website:

1. https://www.textileworld.com/
2. https://nptel.ac.in/courses/
3. www.thetextileblogspot.in
4. https://www.textileschool.com/453/woven-design/
5. https://www.youtube.com/watch?v=DdwhvbxMiD4

Suggested Course Practical List:

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
1	Collection of various types of compound fabric structure.	I	03
2	Prepare sample for Barley Corn weave using design, draft & lifting plan	II	03
3	Prepare sample for Stitched Hopsack weave using design, draft & lifting plan	II	03
4	Prepare sample for Mock Leno weave using design, draft & lifting plan	II	03
5	Prepare sample for Diamond/ Diaper weave using design, draft & lifting plan	III	03
6	Prepare sample for Honey comb/ Huck-a-back weave using design, draft & lifting plan	III	03
7	Prepare sample for corded/ cork screw structure.	IV	03
8	Prepare sample for Bed ford cord weave.	IV	03
9	Analyze the weave design patterns for special/specific applications.	IV	03
10	Prepare sample for Gauze and Leno structure using top douping/ bottom douping method.	V	03
	Total		**30**

List of Laboratory/Learning Resources Required:

S. No.	Equipment Name with Broad Specifications	PrO. No.
1	Basic stationary material Pencil, scale, eraser, sketchpen/highlighter etc.	All
2	Fabric analysis kit (pick glass, ruling scale, forcipes plucker)	All
3	Point paper/ Design paper	All
4	Handloom/ Cardboard	All
5	Yarn for weaving, Needle, etc	All

Suggested Project List:

a) Explore weave design software
b) Visit to various weaving units
c) Visit current market and observe weave designs used in various fabrics

Suggested Activities for Students:

a) Collection of fabric samples based on its structure (manufacturing technique), types & end uses.
b) Work as a designer/team member of a textile design studio.
c) Creation of woven design as per end use requirement.

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