



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Diploma in Engineering

Level: Diploma

Branch: Computer Aided Costume Design and Dress Making

Course / Subject Code: DI02051031

Course / Subject Name: Pattern Making & Grading

w. e. f. Academic Year:	2024-25
Semester:	2 nd
Category of the Course:	PCC

Prerequisite:	Nil
Rationale:	Garment designing and pattern making are critical skills in the fashion industry, essential for creating high-quality apparel products. Understanding body measurement techniques block construction, and pattern creation allows designers to produce accurate, well-fitting garments efficiently. This curriculum provides a thorough overview of key concepts, from basic body measurement principles through advanced pattern grading techniques. The inclusion of different types of blocks, pattern layout rules, both manual and computerized grading techniques reflects the evolving nature of the industry, allowing students to adapt to current technologies while understanding traditional methods. It also outlines basic knowledge and skills in students and gives them hands-on experience with real-world application.

Course Outcome:

After Completion of the Course, Student will able to:

No.	Course Outcomes	RBT Level
01	Demonstrate various landmarks of human body used in apparel industry.	U
02	Identify different type of blocks.	A
03	Create innovative pattern using draping, flat pattern and drafting techniques.	C
04	Plan placement of pattern pieces on the fabric to optimize cutting efficiency.	A
05	Develop patterns using appropriate grading method.	A

*Revised Bloom's Taxonomy (RBT)

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA M)	PA/CA (I)	ESE (V)	
2	0	4	4	70	30	50	50	200



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Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	Body Measurement 1.1 Knowledge of various landmarks on the body required for making the garments. 1.2 Type of body measurements: Vertical & Horizontal. 1.3 Techniques of taking body measurements: Direct measurements from the body, indirect measurements from the readymade garments and standard size charts.	3	10
2.	Blocks 2.1 Definition of block. 2.2 Type of blocks: Standard block, Simplified block, Tailoring block, Trade block, Primary block, Secondary block. 2.3 Importance of blocks.	2	6
3.	Techniques of Pattern Making 3.1 Draping: Definition, purpose, process, material required, principles, its advantages and limitations. 3.2 Drafting: Definition, purpose, process, material required, principles, its advantages and limitations. 3.3 Flat pattern: <ul style="list-style-type: none">• Definition, principles, material required, its advantages and limitations.• Methods of Flat Pattern: Slash method, Pivot method.	12	40
4.	Pattern Layout 4.1 Types of Grain-line: On Grain, Off Grain, Straight Grain, Bias Grain & True Bias Grain. 4.2 Importance of Grain-line. 4.3 Rules for pattern layout. 4.4 Types of pattern layout: Lengthwise centre fold, Off-centre lengthwise fold, Crosswise centre fold, Off-centre crosswise fold, Double fold, Combination fold, Open fold. 4.5 Special layouts: Striped, Checks/ Plaids, One Way, Nap/Pile.	7	24
5	Pattern Grading 5.1 Definition and its concept. 5.2 Importance of pattern grading in the fashion industry. 5.3 Techniques for pattern grading <ul style="list-style-type: none">• Manual: Cut & spread, Pattern shifting.	6	20



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	<ul style="list-style-type: none">• Computerized Grading. <p>5.4 Advantages and limitations.</p> <p>5.5 Manual- master grade of basic back, basic front, basic collar.</p>		
	Total	30	100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
10	35	35	10	--	10

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:

1. Pattern making for fashion design: Helen Joseph –Armstrong Published by Longman ISBN: 9780060403324`
2. Fabric, form and flat pattern cutting: Winifred Aldrich Published by Blackwell Publishing Wiley Blackwell; 2nd edition (July 30, 2007) ISBN-13: 978-1405136204 ISBN-10: 1405136200
3. Pattern making for fashion design: Helen Joseph –Armstrong Published by Pearson Education India ISBN: 9789332518117
4. Pattern Grading for Women's Clothes: The Technology of Sizing: Gerry Cooklin Published by Willey & Sons, Incorporated, John ISBN :06320022957 ISBN 13: 9780632022953
5. Pattern Grading for Women's Cloths Gerry Cooklin Published by Willey –Black Well ISBN-10 0632056924 ISBN-13: 978-0632056927

(b) Open-source software and website:

1. <https://www.fibre2fashion.com/industry-article/5658/basics-of-pattern-making?amp=true>
2. <https://fashionindex.com/library/how-to-measure-body-dimensions/landmarks/>
3. <https://www.dresspatternmaking.com/blocks/drafting-derivative-blocks/dress-block/bodice-front-side-seam>
4. <https://techpacker.com/blog/design/how-to-create-a-flat-pattern/>
5. <https://dressed-in-a-dress.com/blog/01-block-patterns/>
6. <https://techpacker.com/blog/design/apparel-pattern-making/>
7. <https://fabrickated.com/2015/11/20/draping-versus-flat-pattern-cutting-where-do-you-stand/>
8. <https://dressed-in-a-dress.com/blog/01-block-patterns/>
9. <https://techpacker.com/blog/design/pattern-grading-in-the-fashion-garment-industry/>



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Suggested Course Practical List:

Sr. No.	Practical List	Hours
1	Draft upper basic block as per the measurement	06
2	Draft basic block of sleeve as per the measurement	02
3	Shift one & two darts by pivot method (2 samples)	02
4	Shift one & two darts by slash method. (2 samples)	02
5	Combine two darts by pivot method. (2 samples)	01
6	Combine two darts by slash method. (2 samples)	01
7	Combine dart and convert in to gathers. (2 samples)	02
8	Divide one dart by pivot method. (1 samples)	01
9	Divide one dart by slash method. (1 samples)	01
10	Prepare set in sleeves using slash method. (Construct any one) <ul style="list-style-type: none">• Leg-O-Mutton sleeve• Gathers at top & bottom (puff sleeve)• Petal• Bell	04
11	Prepare non-set-in sleeves using adaptation from basic block of women garment. (Construct any one) <ul style="list-style-type: none">• Kimono• Raglan pointed• Square• Dolman	04
12	Prepare flat collars. (Construct any one) <ul style="list-style-type: none">• Peter-pan• Sailor's collar• Cape collar	06
13	Prepare raised collars. (Construct any one) <ul style="list-style-type: none">• Chinese collar (mandarin collar)• Shirt Collar• Polo collar	06
14	Draft lower basic block as per the measurement	04



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15	Prepare skirts using slash method and drafting method (Construct any one) <ul style="list-style-type: none">• Skirt with fullness at bottom (Flared skirt)• Skirt with fullness at top & bottom (Tiered skirt)• Half umbrella (Half Circular)• Full umbrella (Full Circular)	06
16	Prepare patterns using draping method <ul style="list-style-type: none">• Upper basic block (front & back)• Princess line (Seam)• Bask (Yoke)	06
17	Grading of bodice pattern (1 size up & 1 size down) <ul style="list-style-type: none">• Front bodice• Back bodice• Sleeve	06
	Minimum Practical Hours	60

List of Laboratory/Learning Resources Required:

- Cutting Laboratory
- Sewing Laboratory
 1. Half/Full shuttle sewing Machines
 2. Mannequin

Suggested Project List:

1. **Sleeve:** Collect images of different types of sleeves and prepare a chart.
2. **Collar:** Prepare a chart showing different designs of collars.
3. **Garment Component:** Combine different garment components and design any three female garments
4. **Basic Block variation:** Prepare a collage of images showing basic block variation.

Suggested Activities for Students: If any

1. Assign internet-based assignments.
2. Give seminar on any relevant topic.
3. Assign teacher guided self-learning activities.
