

**GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT****COURSE CURRICULUM****COURSE TITLE: ADVANCED APPAREL PRODUCTION AND TECHNOLOGY****(COURSE CODE: -3355104)**

<b>Diploma Programmes in which this course is offered</b>	<b>Semester in which offered</b>
Computer Aided Costume Design and Dress Making	5 <sup>th</sup> Semester

**1. RATIONALE**

This course gives an awareness of technologies and processes being used in different departments of the apparel production by the industry. It intends to make you capable to choose appropriate technology for apparel production and plan production schedule based on knowledge of production capacities of different production machines and time required in different processes.

**2. LIST OF COMPETENCY**

The course content should be taught with the aim to develop different types of skills so that students are able to acquire following competency:

**Plan the processes associated with stores, cutting department, sewing department and finishing department for quality apparel production.**

**3. COURSE OUTCOMES**

The theory should be taught and practical should be carried out in such a manner that students are able to acquire different learning outcomes in cognitive, psychomotor and affective domain to demonstrate following course outcomes.

- i. Manage the ware house
- ii. Describe different steps in cutting department processes for quality cutting
- iii. Explain different steps in sewing department processes for quality sewing
- iv. Describe the different steps in finishing department processes for quality finishing

**4. TEACHING AND EXAMINATION SCHEME**

<b>Teaching Scheme (In Hours)</b>			<b>Total Credits (L+T+P)</b>	<b>Examination Scheme</b>				
				<b>Theory Marks</b>		<b>Practical Marks</b>		<b>Total Marks</b>
<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>	<b>ESE</b>	<b>PA</b>	<b>ESE</b>	<b>PA</b>	
4	0	0	4	70	30	00	00	100

**Legends:** L-Lecture; T – Tutorial/Teacher Guided Theory Practice; P -Practical; C – Credit ESE -End Semester Examination; PA - Progressive Assessment.

## 5. DETAILED COURSE CONTENT

Unit	Major Learning Outcomes (outcomes in cognitive domain)	Topics and Sub-topics
<b>Unit –I Warehouse management</b>	1a. Explain different type of store management system.	1.1 Store management system (LIFO , FIFO, Delivery Chalan, Stock management) 1.2 Store report generation 1.3 Report format example
<b>Unit -II Cutting department process</b>	2a.Manipulate marker planning of different garments on different varieties of fabric. 2b.Plan fabric cutting for cost effective production of garment. 2c.Sort out fabric defects before cutting for quality production.	2.1 Marker planning 2.2 Marker making – shirt/ trouser/ t-shirt by miniature or full size patterns for woven and knit (open and tubular) fabric 2.3 Marker making - Check and plaid fabric 2.4 Various ways of marker and their relation with fabric design and weave 2.5 Single pattern double ply marker 2.6 Marker efficiency calculation 2.7 Cut order planning 2.8 Fabric reconciliation report 2.9 Effect of width variation on spreading & cutting 2.10 Effect of fabric shrinkage on spreading & cutting 2.11 Dealing with fabric problems - bowing, skewing& fabric defects 2.12 Different types of spreading 2.13 Introduction to interlining and its checking parameters
<b>Unit– III Sewing department process</b>	3a.Explain continuous sewing process in industry using line process /crisis management and line balancing methods for quality production.	3.1 Operation breakdown and line balancing 3.2 WIP management 3.3 Line loading based on type of production system 3.4 Preparation for next lot of sewing 3.5 Preparation for introducing new style 3.6 Parameters of line (quality, response time, WIP, throughput, line supervision, crisis management) 3.7 Production reports 3.8 Under pressing 3.9 Setting up of inspection points 3.10 Trims planning
<b>Unit– IV Finishing department</b>	4a. Familiarise with finishing process associated with apparel production and prepare report accordingly.	4.1. Ironing, pressing, tagging, folding of shirt, trouser, t-shirt, undergarment 4.2. Various packing ratio and packing methods

Unit	Major Learning Outcomes (outcomes in cognitive domain)	Topics and Sub-topics
process		4.3. Carton marking 4.4. Quality check and analysis 4.5. Reports on quality 4.6. Report on cut to pack ratio

## 6. SUGGESTED SPECIFICATION TABLE WITH HOURS & MARKS (THEORY)

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total
I.	Warehouse management	08	03	04	03	10
II.	Cutting department process	24	07	14	07	28
III.	Sewing department process	16	07	08	07	22
IV.	Finishing department process	08	03	03	04	10
	<b>Total</b>	<b>56</b>	<b>20</b>	<b>29</b>	<b>21</b>	<b>70</b>

**Legends:** R = Remember; U = Understand; A = Apply and above levels (Bloom's Revised Taxonomy)

**Note:** This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

## 7. SUGGESTED LIST OF EXPERIMENTS

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## 8. SUGGESTED LIST OF STUDENT ACTIVITIES

- Students will visit 2 factories and prepare chart for cut order planning.
- Critically observe the warehouse system, cut order planning, marker making and various types of production report.
- Make assignment on Marker planning and drawing of different types of spreads.
- Prepare a process flow diagram of the process being followed for apparel production for a selected factory.
- Visiting a nearby garment fair and submit the report.

## 9. Special Instructional Strategies (if any):

- Show video films of different production processes used for making different type of Garments.
- Ask students to collect specifications for different types of machines and their production capacity and prepare report on it. They can take help from internet and visit websites of the garment making machine manufacturing sites.

## 10. SUGGESTED LEARNING ACTIVITIES

### A. List of Books

Sr. No.	Title of Book	Author	
1.	Technology of clothing Manufacturers	Harold Carr & Barbera Latham	Blackwell Science
2.	Apparel Manufacturing Analysis	Jacob Solinger	Bobbin Media Corporation, 1988

### B. List of Major Equipment/ Instrument

- i. Audio visual equipment to record process video for study
- ii. Lux meter
- iii. Equipment to take measurement – scale Inch tape, inner and outer diameter Caliper etc
- iv. Digital stop watch mounted on a writing pad

### C. List of Software/Learning Websites

- i. www.stitchworld.com

### D. List of Magazines and journals

- i. Bobbin
- ii. Stitch world

## 11. COURSE CURRICULUM DEVELOPMENT COMMITTEE

### Faculty Members from Polytechnics

- Mrs.N.A.Atrey, I/c HOD, Department of CACDDM, C. U. Shah polytechnic, Surendranagar.
- Ms. K. P. Shah, I/c HOD, Department of CACDDM, G.G.P., Ahmedabad.
- Dr. J.R.Jhala, I/c HOD, Department of CACDDM, A.V.P.T., Rajkot.
- Mrs. N.A.Nagori, Lecturer, Department of CACDDM, Department of CACDDM, G.G.P.,Ahmedabad.

### Co-ordinator and Faculty Members from NIFT-Gandhinagar

- Prof. Pavan Godiwala, Project Coordinator, NIFT-Gandhinagar

### Co-ordinator and Faculty Members from NITTTR

- Dr Shashi Kant Gupta, Professor and Coordinator for State of Gujarat.
- Prof. (Mrs.) Chanchal Mehra, Associate Professor, Department of Vocational Education and Entrepreneurship Development.