

Program Name : Diploma in Dress Designing & Garment Manufacturing
Program Code : DD
Semester : Second
Course Title : Apparel Production & Quality Management
Course Code : 24208

1. RATIONALE

This course comprises of complete learning of the garment industry. This includes line planning, garment processing, finishing, packaging, spec sheet and cost sheets. Apparel sector is highly dependent on quality standards. This course focuses on the quality requirements of the industry. Inspections at every stage of work will make one capable of producing quality outputs. The study of this course will enable students to be fully equipped to step in the industry of garment manufacture.

2. COMPETENCY

The aim of the course is to help the student to attain the following industry identified competency through various teaching, learning experiences.

- **Analyse the process & quality aspect for apparel production management.**

3. COURSE OUTCOMES (Cos)

The student will be able to

- Outline pre production and post production activities in garment industry.
- Select relevant apparel packaging & logistics.
- Select relevant labels & Hang tags
- Evaluate quality characteristics.
- Perform quality control for fabrics and accessories.
- Inspect apparel manufacturing at various stages.

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme			Credit (L+T+P)	Examination Scheme												
L	T	P		Theory						Practical						
				Paper Hrs.	ESE		PA		Total		ESE		PA		Total	
				Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
3	--	--	3	3	70	28	30*	00	100	40	--	--	--	--	--	--

(*): Under the theory PA, Out of 30 marks, 10 marks are for micro-project assessment to facilitate integration of COs and the remaining 20 marks is the average of 2 tests to be taken during the semester for the assessment of the cognitive domain UOs required for the attainment of the COs.

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



5. COURSE MAP (with sample COs, Learning Outcomes i.e. LOs and topics)

This course map illustrates an overview of the flow and linkages of the topics at various levels of outcomes (details in subsequent sections) to be attained by the student by the end of the course, in all domains of learning in terms of the industry/employer identified competency depicted at the centre of this map.

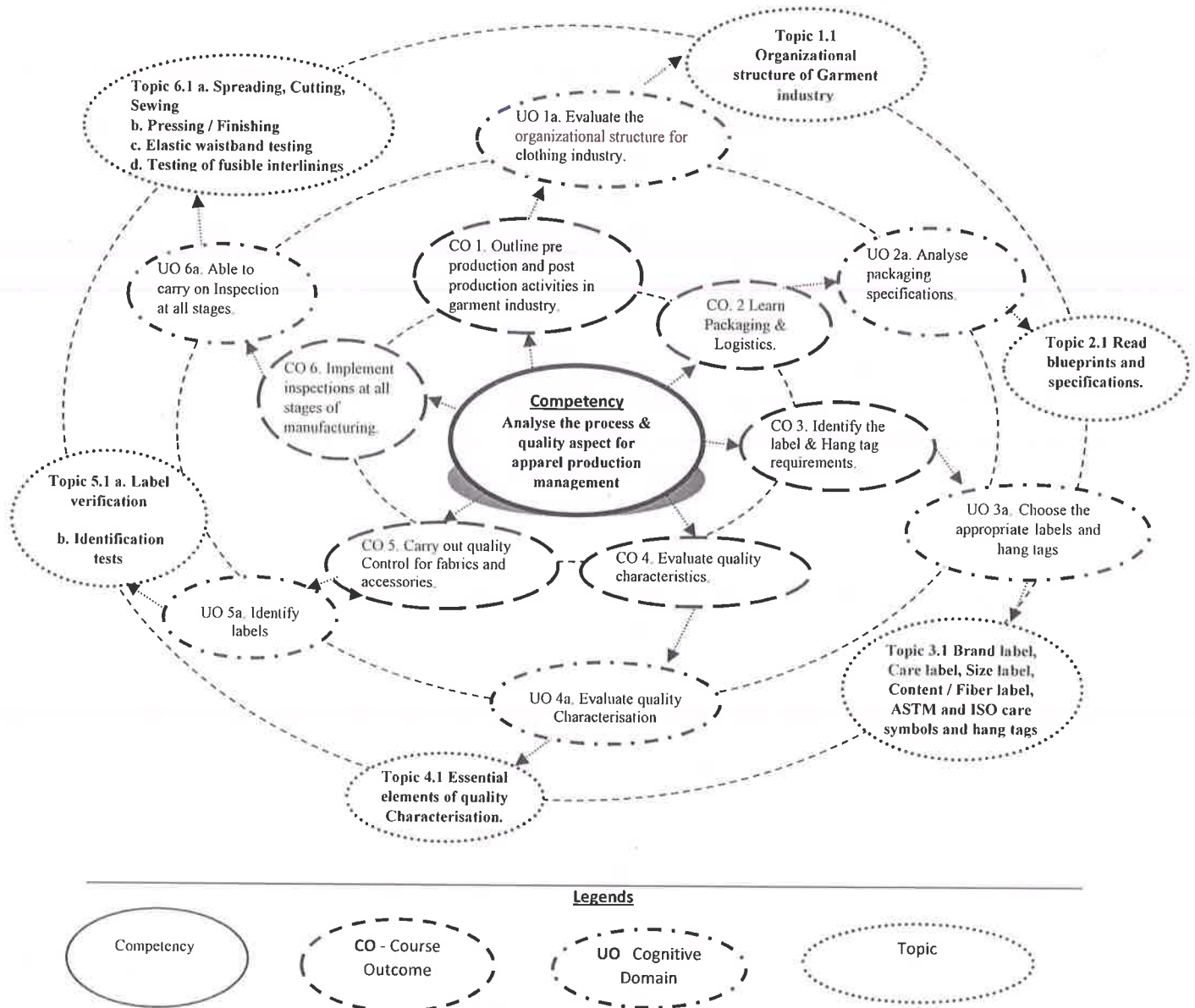


Figure 1 - Course Map

6. UNDERPINNING THEORY COMPONENTS

The following topics / subtopics should be taught and assessed in order to develop following cognitive domain for achieving the Cos to attain the identified competency.



Unit	Unit Outcomes (UOs) (in cognitive domain)	Topics and Sub-topics
Unit – I Organizing the Clothing Manufacturing Company	1a. Evaluate the organizational structure for clothing industry. 1b. Determine the pre-adoption steps in garment manufacturing. 1c. Propose the post-adoption steps for the given garment manufacturing. 1d. Develop formats and worksheets for garment manufacture	1.1 Organizational structure of Garment industry 1.2 Line planning and consumer research, concept development, quick costing, pattern development, preparing samples for various purpose, Line reviews – check on check. 1.3 Styling and fit perfection, Creation of production pattern, Gradation, Production marker development, Final costing and Ware housing. 1.4 Spec sheets and Cost sheets
Unit – II Apparel Production / Packaging / Logistics	2a. Analyse packaging specifications. 2b. Differentiate various packaging materials. 2c. Choose relevant packaging method.	2.1 Read blueprints and specifications. 2.2 Identify and use appropriate materials used for packaging. 2.3 Identify and apply different methods of Packaging the product.
Unit – III Labelling of Apparel	3a. Choose appropriate labels and hang tags 3b. Design different labelling styles. 3c. Select fabrics for labels.	3.1 Brand label, Care label, Size label, Content / Fiber label, ASTM and ISO care symbols and hang tags. 3.2 Labelling styles 3.3 List various fabrics used in the manufacture of labels.
Unit – IV Quality Characterisation	4a. Evaluate quality Characterisation 4b. Examine raw materials 4c. Examine fabric quality 4d. Differentiate various point Systems	4.1 Essential elements of quality Characterisation 4.2 Raw material inspection 4.3 Fabric inspection 4.4 4 Point system
Unit V Quality Control and assessment	5a. Choose relevant labels 5b. Explain washability results. 5c. Describe relevant Strength and Performance tests 5d. Identify defects in woven and knitted fabrics 5e. Select relevant Sewing threads, Zippers, buttons and snaps	5.1 a. Label verification b. Identification tests 5.2 a. Colour fastness to washing dry cleaning b. Soil and Stain release c. Water resistance and water repellency. 5.3 a. Tensile, tearing, Crease Recovery, Pilling, Drape, Testing of shades (light, rubbing). b. Seam Strength c. Fabric stretch properties d. Sewability of fabrics e. Dimensional changes due to Laundering / Dry cleaning Steaming & Pressing

		f. Needle cutting / yarn severance g. Durable Press Evaluation of fabrics and apparel 5.4 a. Bow and skewness in woven and knitted fabrics b. Distortion of yarn c. Fabric Analysis 5.5 a. General properties b. Visual testing c. Strength / Durability properties
Unit – VI Inspection	6a. Explain In-process Inspection 6b. Explain Final Inspection	6.1 a. Spreading, Cutting, Sewing b. Pressing / Finishing a. Elastic waistband testing b. Testing of fusible interlinings 6.2 a. Woven & Knit garments b. Fabric c. Garment Construction d. Care Labelling e. Product Labelling f. Size and Fit

Note: To attain the COs and competency, above listed UOs need to be undertaken to achieve the 'Application Level' and above of Bloom's 'Cognitive Domain Taxonomy'

7. SUGGESTED SPECIFICATION TABLE FOR QUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Organizing the Clothing Manufacturing Company	07	02	04	04	10
II	Apparel Production / Packaging / Logistics	10	04	04	04	12
III	Labelling of Apparel	05	02	04	04	10
IV	Quality Characterisation	06	02	04	04	10
V	Quality Control and assessment	12	04	04	08	16
VI	Inspection	08	04	04	04	12
Total		48	18	24	28	70

Legends: R=Remember, U=Understand, A=Apply and above (Bloom's Revised taxonomy)

Note: This specification table provides general guidelines to assist student for their learning and to teachers to teach and assess with respect to attainment of LOs. The actual distribution of marks at different taxonomy levels (of R, U and A) in the question paper may vary from above table.

8. SUGGESSTED STUDENT ACTIVITES

Other than the classroom and laboratory learning, following are the suggested student related co-curricular activities which can be undertaken to accelerated the attainment of the various outcomes in this course:



- a. Visit to Garment Production Unit.
- b. Visit to Textile Committee.
- c. Participating in various competitions.

9. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES

These are sample strategies, which the teacher can use to accelerate the attainment of the various outcomes in this course:

- a) Show videos to explain functioning of various industrial machines.
- b) Explain with solid examples wherever possible.

10. SUGGESTED MICRO-PROJECTS

1. A micro-project is required to be developed based on the visit to garment industry. This project should be compilation of pictures and important notes only.
2. A visit to Textile Committee. A micro-project needs to be developed based on the Documentation of testing methodology.

11. SUGGESTED LEARNING RESOURCES:

Sr. No.	Title of Book	Author	Publication & ISBN No
1	Introduction To Clothing Production Management	Chuter, A. J.	Oxford, Bsp Professional Books / Blackwell Scientific Publications Ltd., 1990 ISBN-9780632018277
2	Introduction To Clothing Manufacture	Cooklin, Gerry [Author] Gerry Cooklin [Author] Hayes, Steven [Revised By] Mcloughlin, John [Revised By]	New Delhi, Om Books International, 2007 ISBN-9780632058464
3	Quality Management Handbook For The Apparel Industry	Mehta, Pradip V.	New Delhi, New Age International (P) Limited, Publishers, 2012 ISBN-9788122434286
4	Fashion Design And Product Development	Carr, Harold Pameory, John	Oxford, Blackwell Science Ltd., 1992 ISBN-9780632028931
5	The Technology Of Clothing Manufacture	Carr, Harold Latham, Barbara	Oxford, Blackwell Science Ltd., 1994 ISBN-9780632021932
6	Apparel Manufacturing: Sewn Product Analysis	Glock, Ruth E. Kunz, Grace I.	New Delhi, Pearson Education, Inc. / Dorling Kindersley Publishing Inc., 2005 ISBN-9788177580761



12. SUGGESTED SOFTWARE / LEARNING WEBSITES

- a) <https://clothingindustry.blogspot.com/2018/04/packaging-process-garment-industry.html>
- b) <http://www.garmentsmerchandising.com/different-types-of-label-used-in-garments/>
- c) https://www.answers.com/Q/Difference_between_bowed_and_skewed_fabric
- d) <https://www.intouch-quality.com/blog/5-essential-garment-inspection-steps-to-protect-your-quality>
- e) <https://clothingindustry.blogspot.com/2017/12/make-spec-sheet-garments.html>

