

GUJARAT TECHNOLOGICAL UNIVERSITY (GTU)

Competency-focused Outcome-based Green Curriculum-2021 (COGC-2021)
Semester -II

Course Title: Needle Craft
(Course Code:4325105)

Diploma programmes in which this course is offered	Semester in which offered
Computer Aided Costume Design & Dress Making	Second

1. RATIONALE

This course will provide basic knowledge of embroidery stitches, tools and equipment required for embroidery of India. It is necessary to learn basic embroidery stitches for enhancing the beauty of garments. This course will provide base to make garments aesthetically beautiful.

2. COMPETENCY

The purpose of this course is to help the student to attain the following industry identified competency through various teaching learning experiences:

- **Select appropriate embroidery type for given garment design.**

3. COURSE OUTCOMES (COs)

The practical exercises, the underpinning knowledge and the relevant soft skills associated with the identified competency are to be developed in the student for the achievement of the following COs:

- Select relevant tools and accessories for hand embroidery.
- Classify different types of basic embroidery stitches.
- Create different type of Indian embroidery samples.
- Create different type of crochet samples.

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P/2)	Examination Scheme				Total Marks
L	T	P		Theory Marks		Practical Marks		
			C	CA	ESE	CA	ESE	
3	-	2	4	30*	70	25	25	150

(*): Out of 30 marks under the theory CA, 10 marks are for assessment of the micro-project to facilitate integration of COs and the remaining 20 marks is the average of 2 tests to be taken during the semester for assessing the attainment 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, CA - Continuous Assessment; ESE -End Semester Examination.

5. SUGGESTED PRACTICAL EXERCISES

The following practical outcomes (PrOs) are the sub-components of the COs. *Some of the PrOs marked '**' (in approx. Hrs column) are compulsory, as they are crucial for that particular CO at the 'Precision Level' of Dave's Taxonomy related to 'Psychomotor Domain'.*

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
	Prepare samples of following Indian embroidery on 8"/8" fabric. The size of the design should be 4"/4". Also prepare a report indicating fabric used, type and size of needle, type of thread and amount of all the material consumed.		
1	Kashmiri	III	04*
2	Phulkari	III	02*
3	Chamba	III	02*
4	Chikankari	III	02*
5	Kantha	III	02*
6	Manipuri	III	02*
7	Kutch	III	02*
8	Kathiawari	III	02*
9	Kasuti (Dharwadi)	III	02*
10	Applique Patch work	III	02*
	Prepare samples of following crochet On 4"/4". Also prepare a report indicating used stitch type Needle size, type of thread and amount of all the material consumed		
11	Crochet Sample (4"/4" size). Circle	IV	02*
12	Crochet Sample (4"/4" size). Triangle	IV	02*
13	Crochet Sample (4"/4" size). Square	IV	02*
Minimum 13 Practical Exercises		28 Hrs.	

Note

- i. More **Practical Exercises** can be designed and offered by the respective course teacher to develop the industry relevant skills/outcomes to match the COs. The above table is only a suggestive list.
- ii. The following are some **sample** 'Process' and 'Product' related skills (more may be added/deleted depending on the course) that occur in the above listed **Practical Exercises** of this course which are embedded in the COs and ultimately the competency.

S. No.	Sample Performance Indicators for the PrOs	Weightage in %
1	Select of tools, accessories and material as per requirement.	20
2	Interpret the design for appropriate transfer on/with appropriate materials.	10
3	Construct the samples as per laid down process.	30
4	Ensure Finishing of the samples before submission.	20
5	Develop creative portfolio of prepared samples.	20
Total		100

6. MAJOR EQUIPMENT/ INSTRUMENTS REQUIRED

This major equipment with broad specifications for the PrOs is a guide to procure them by the administrators to usher in uniformity of practical in all institutions across the state.

S. No.	Equipment Name with Broad Specifications	PrO.No.
1	NA	

7. AFFECTIVE DOMAIN OUTCOMES

The following **sample** Affective Domain Outcomes (ADOs) are embedded in many of the above-mentioned COs and PrOs. More could be added to fulfil the development of this course t competency.

- Work as a leader/a team member.
- Follow ethical practices.
- Realize importance of green energy.

The ADOs are best developed through the laboratory/field-based exercises. Moreover, the level of achievement of the ADOs according to Krathwohl's 'Affective Domain Taxonomy' should gradually increase as planned below:

- 'Valuing Level' in 1st year
- 'Organization Level' in 2nd year.
- 'Characterization Level' in 3rd year.

8. UNDERPINNING THEORY

The major underpinning theory is given below based on the higher level UOs of *Revised Bloom's taxonomy* that are formulated for development of the COs and competency. If required, more such higher level UOs could be included by the course teacher to focus on attainment of COs and competency.

Unit	Unit Outcomes (UOs) (4 to 6 UOs at different levels)	Topics and Sub-topics
Unit – I Required tools and accessories for hand Embroidery.	1a. Appreciate the need of embroidery in garments. 1b. Select appropriate tools and accessories for given embroidery work. 1c. Suggested appropriate types of fabric and thread for given embroidery work. 1d. Select suitable needle for given embroidery work.	1.1 Origin of embroidery 1.2 Development of embroidery 1.3 Importance of embroidery 1.4 Selection, use and maintenance of tools for embroidery 1.5 Various threads used in embroidery. 1.6 Accessories used in embroidery. 1.7 Various types of Needles and fabrics with its impact on quality parameters.
Unit – II Different types of Basic Embroidery Stitches.	2a. Differentiate between different types of basic embroidery stitch. 2b. Explain the steps used for preparation of given embroidery. 2c. Suggest suitable stitches for given embroidery design. 2d. Suggest the application of given stitches. <u>Note:</u> After completion of each Stitch, demonstration should be given.	2.1 Basic stitches. 2.1.1 Back stitch 2.1.2 Stem Stitch 2.1.3 Blanket stitch 2.1.4 Chain stitch 2.1.5 Laid and Couching /cording 2.1.6 Cross stitch 2.1.7 Feather stitch / Fly stitch 2.1.8 Satin stitch 2.1.9 Lazy –daisy stitch 2.1.10 Bullion and French knot 2.1.11 Long and short stitch 2.1.12 Herring bone

Unit– III Different types of Indian Embroideries.	3 a. Describe different Indian embroidery stitches. 3 b. Explain usage of material and its explorations from historical and recent perspective with respect to traditional embroideries. 3 c. Select appropriate thread, motifs, color and stitches for given embroidery. 3 d. Draw tradition motifs for given traditional embroidery	3.1 Traditional embroidery 3.1.1 Kashmiri Kashida 3.1.2 Bagh and Phulkari of Punjab 3.1.3 Chamba Rumals of Himachal 3.1.4 Kashida, Sujani and appliqué of Bihar 3.1.5 Bengal Kantha 3.1.6 Murshidabad and Dacca embroidery 3.1.7 Manipuri embroidery 3.1.8 Rajasthan embroidery 3.1.9 Kasuti of Maharashtra and Mysore 3.1.10 Chikankari of Lucknow (Uttar Pradesh) 3.1.11 Kutch and Kathiawar embroidery of Gujarat 3.1.12 Gold and silver embroidery (zardosi)
Unit– IV Required tools and materials for Crochet	4 a. Describe different crochet stitches. 4 b. Select suitable needle for crochet. 4 c. Select suitable material for crochet. 4 d. Create different types of Crochet design.	4.1 Importance of crochet 4.2 Selection and use of tools and materials for crochet. 4.3 Crochet stitches. 4.3.1 Slip stitch 4.3.2 Chain stitch 4.3.3 Single crochet stitch 4.3.4 Half double crochet stitch 4.3.5 Double crochet stitch 4.3.6 Treble crochet stitch

9. SUGGESTED SPECIFICATION TABLE FOR QUESTIONPAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Required tools and accessories for hand embroidery.	04	03	03	04	10
II	Different types of Basic Embroidery Stitches.	10	04	06	10	20
III	Different types of Indian Embroideries.	22	08	08	14	30
IV	Required tools and materials for Crochet	06	03	03	04	10
Total		42	18	20	32	70

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

Note: This specification table provides general guidelines to assist student for their learning and to teachers to teach and question paper designers/setters to formulate test items/questions to assess the attainment of the UOs. The actual distribution of marks at different taxonomy levels (of R, U and A) in the question paper may vary slightly from above table.

10. SUGGESTED STUDENT ACTIVITIES

Other than the classroom and laboratory learning, following are the suggested student-related **co-curricular** activities which can be undertaken to accelerate the attainment of the various outcomes in this course. Students should conduct following activities in group and prepare

reports of about 5 pages for each activity. They also collect/record physical evidences for their (student's) portfolio which will be useful for their placement interviews:

- a) Assign internet-based assignments.
- b) Give seminar on any relevant topic.
- c) Undertake market survey on relevant topics.
- d) Assign teacher guided self-learning activities.
- e) **Yarn waste: Prepare Rug using the waste material collected while preparing different crochet samples.**

11. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

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

- a) Massive open online courses (**MOOCs**) may be used to teach various topics/sub topics.
- b) Guide student(s) in undertaking micro-projects.
- c) **'L' in section No. 4** means different types of teaching methods that are to be employed by teachers to develop the outcomes.
- d) About **20% of the topics/sub-topics** which are relatively simpler or descriptive in nature is to be given to the students for **self-learning**, but to be assessed using different assessment methods.
- e) With respect to **section No.10**, teachers need to ensure to create opportunities and provisions for **co-curricular activities**.
- f) Guide students on how to address issues on environment and sustainability. Make students understand the relevant topic using animation, video and presentations.

12. SUGGESTED MICRO-PROJECTS

Only one micro-project is planned to be undertaken by a student that needs to be assigned to him/her in the beginning of the semester. In the first four semesters, the micro-project are group-based (group of 3 to 5). However, **in the fifth and sixth semesters**, the number of students in the group should **not exceed three**.

The micro-project could be industry application based, internet-based, workshop-based, laboratory-based or field-based. Each micro-project should encompass two or more COs which are in fact, an integration of PrOs, UOs and ADOs. Each student will have to maintain dated work diary consisting of individual contribution in the project work and give a seminar presentation of it before submission. The duration of the microproject should be about **14-16 (fourteen to sixteen) student engagement hours** during the course. The students ought to submit micro-project by the end of the semester to develop the industry-oriented COs.

A suggestive list of micro-projects is given here. This has to match the competency and the COs. Similar micro-projects could be added by the concerned course teacher:

- a) Take 5-6 different embroidered articles, identify various stitches in it and prepare a detail report.
- b) Decorate any one product using basic embroidery stitches.
- c) Decorate any one product using crochet stitches.

13. SUGGESTED LEARNING RESOURCES

S. No.	Title of Book	Author	Publication with place, year and ISBN
1	Traditional Embroideries of India	Dr. Shailaja D. Naik	A.P.H.Publishing Corporation 1996 ISBN-9788170247319
2	Textiles and embroidery of India	Kamladevi Chattopadhyay & Jasleen Dhamecha	Mark Publications, 34-38 Bank street, Bombay, India.
3	Indian Embroidery	Savitri Pandit	1 st edition 1976
4	Bhartiya Kashidakari	Dr. Amita Patel & Anita Patel	Avichl Science Foundation V.V.Nagar
5	Ethnic Embroidery of India	Usha Shrikant	Honesty Publisher &Distributors
6	The coats book of Embroidery	Mary Gostelow	David & Charles Newton Abbot London Vancouver
7	Complete guide to needle work ---	Reader 's Digest publication, 1979 ISBN-10:0895770598/13: 9780895770592
8	Crafts of Gujarat Embroidery Ornaments.	Jaya Jaitly	
9	A stitch in Gujarat Embroidery.		The Gujarat state Handicraft & Handloom Development Corporation Ltd.

14. SOFTWARE/LEARNING WEBSITES

- www.nptel.iitm.ac.in
- https://ndl.iitkgp.ac.in
- www.electronicsforu.com
- www.electrical4u.com
- www.vlab.co.in

15. PO-COMPETENCY-CO MAPPING

Semester I	Needle Craft (Course Code: 4325105)						
	POs						
Competency & Course Outcomes	PO 1 Basic & Discipline specific knowledge	PO 2 Problem Analysis	PO 3 Design/ development of solutions	PO 4 Engineering Tools, Experimentation &Testing	PO 5 Engineering practices for society, sustainability & environment	PO 6 Project Management	PO 7 Life-long learning
<u>Competency</u>	Select appropriate embroidery type for given garment design.						
<u>Course Outcomes</u> CO a) Select relevant tools and accessories for hand embroidery.	3	2	2	-	-	-	2

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.

CO b) Classify different types of basic embroidery stitch.	3	2	2	-	-	-	2
CO c) Create different types of Indian embroidery samples.	3	3	3	2	2	2	2
CO d) Create different types of crochet samples.	3	3	3	2	2	2	2

16. COURSE CURRICULUM DEVELOPMENT COMMITTEE

GTU Resource Persons

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