

GUJARAT TECHNOLOGICAL UNIVERSITY (GTU)

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

Semester - V

Course Title: Advance Digital Design

(Course Code: 4355103)

Diploma programme in which this course is offered	Semester in which offered
Computer Aided Costume Design & Dress Making	5 th Semester

1. RATIONALE

This course will provide the skill to make designs digitally through designing and editing software's. Student will develop skill to create digital design using different arrangement of motifs. Designing and Editing software's will also provide the opportunity to use various designing and editing tools for modification of the design and present stylized designs. This course will give advance understanding of creating various types of layers, textures, repeats effects in fabric and garment. The main emphasis would be to provide digital based platform in designing of fabrics and garments to the students, so that they can cater the need of the textile and garment manufacturing industry as per the requirement.

2. COMPETENCY

The course content should be taught and implemented with the aim to develop different types of skills leading to the achievement of the following competency:

- **Create and edit digital designs using Designing / Editing software.**

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:

- Distinguish between various types of repeat.
- Select suitable repeat of motifs for fabric development.
- Develop fabrics with different types of print using designing and editing software.
- Illustrate different garments with the developed fabric using designing and editing software.

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P/2)	Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	CA	ESE	CA	ESE	
0	0	4	2	0	0	50*	50	100

(): For this practical only course, 50 marks under the practical CA has two components i.e. the assessment of micro-project, which will be done out of 10 marks and the remaining 40 marks are for the assessment of practical. This is designed to facilitate attainment of COs holistically, as there is no theory ESE.*

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. They are crucial for that particular CO at the 'Precision Level' of Dave's Taxonomy related to 'Psychomotor Domain'.

Sr. No.	Practical Outcomes (PrOs)	UnitNo.	Approx. Hrs. required
1	Design any one motif and create all the following repeats with the prepared motif using Photoshop/ CorelDraw/ Illustrator software. <ul style="list-style-type: none"> • Full drop / block repeat • Half drop repeat • Brick repeat • Diamond repeat • Ogee repeat • Tossed / Random repeat • Mirror repeat • Stripe repeat 	UNIT – I UNIT-III & IV (4325106) UNIT- I, II, III & IV (4335107)	10*
2	Develop the below fabrics with suitable motif and repeats using Photoshop/ CorelDraw/ Illustrator software. <ul style="list-style-type: none"> • Sari • Dress Material 	UNIT-III & IV (4325106) UNIT- I, II, III & IV (4335107)	10*
3	Develop the fabric with the below mentioned prints using Photoshop/ CorelDraw/ Illustrator software. <ul style="list-style-type: none"> • Floral / Animal • Multi-coloured stripes / Checks / Plaids • Abstract • Textual (Alphabetical / Numerical) • Musical notes / Computerized symbols 	UNIT I (4325101) UNIT-III & IV (4325106) UNIT- I, II, III & IV (4335107)	16*
4	Design the following garments with minimum one of the above developed fabric using CorelDraw/ Illustrator software (Multi layers with different transparencies and effects). <ul style="list-style-type: none"> • Casual wear for men / women • Evening gown for women • Traditional wear for men / women • Party wear for children 	UNIT-III & IV (4325106) UNIT- III & IV (4335107)	20*
	Minimum Practical Hours	56	

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 required which are embedded in the COs and ultimately the competency.*

Sr. No.	Sample Performance Indicators for the PrOs	Weightage in %
1	Selection of the appropriate tools for creating motif /repeat/fabric/ garment.	10
2	Creating the digital motif /repeat/fabric/ garment as per requirement.	50
3	Accuracy of the digital motif /repeat/fabric/ garment.	20
4	Submission of the digital motif /repeat /fabric/ garment as per given guidelines.	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 practicals in all institutions across the state.

Sr. No.	Equipment Name with Broad Specifications	PrO. No.
1.	Computer System	1 to 4
2.	Printer	1 to 4

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 competency.

- a) Work as a leader/a team member.
- b) Practice good housekeeping and **environment friendly method**.
- c) Follow ethical practices.

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:

- i. 'Valuing Level' in 1st year.
- ii. 'Organization Level' in 2nd year.
- iii. '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 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 Types of repeat	1a. Identify different types of repeat. 1b. Explain different types of repeat. 1c. Distinguish between different types of repeat. 1d. Apply different types of repeat.	1.1. Different types of repeat. 1.1.1. Full drop / block repeat 1.1.2. Half drop repeat 1.1.3. Brick repeat 1.1.4. Diamond repeat 1.1.5. Ogee repeat 1.1.6. Tossed / Random repeat 1.1.7. Mirror repeat 1.1.8. Stripe repeat

9. 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
Not Applicable						

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

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 perform following activities in group and prepare reports of about 5 pages for each activity. They should also collect/record physical evidences for their (student's) portfolio which may be useful for their placement interviews:

- Undertake market survey on various types of latest prints on fabrics.
- Assign Internet based assignments.
- Assign Teacher guided self learning activities.

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:

- Massive open online courses (**MOOCs**) may be used to teach various topics/sub topics.
- Guide student(s) in undertaking micro-projects.
- 'L' in section No. 4** means different types of teaching methods that is to be employed by teachers to develop the outcomes.
- 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.
- With respect to **section No.10**, teachers need to ensure to create opportunities and provisions for **co-curricular activities**.

- f) Guide students for using the strategies given in various video for giving special effects.

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 is 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:

- Types of motifs:** Collect 9-10 pictures of printed fabrics with latest trending motifs and design two (02) motifs by combining latest trending motifs.
- Types of repeat:** Design any three (03) fabric using combination of 2-3 types of repeat.
- Printed fabric:** Collect various printed fabrics and prepare a scrap book using the collected samples.
- Garment designing:** Design a garment and incorporate various developed fabric in the designed garment.

13. SUGGESTED LEARNING RESOURCES

Sr. No.	Title of Book	Author	Publication with place, year and ISBN
1	Corel DRAW 12: The Official Guide (Corel Press) Paperback – Import, 16 February 2004	Steve Bain	McGraw-Hill Education (16 February 2004) ISBN-13: 978-0072231915
2	Photoshop CC: Visual Quick Start Guide	Elaine Weinmann	Peachpit Press; ISBN-13: 978-0134308890 ISBN-10: 0134308891
3	Rendering Fashion, Fabric and Prints with Adobe Photoshop	M Kathleen Colussy	Pearson India ISBN-10 : 8131709973 ISBN-13 : 978-8131709979
4	Adobe Illustrator Classroom in a Book	Brian Wood	Adobe Press; 1st edition (December 27, 2021) ISBN-13: 978-0137622153 ISBN-10: 0137622155
5	Learn Adobe Illustrator Cc for Graphic Design And Illustration	Rob Schwartz	Pearson India ISBN: 9789389552393

14. SOFTWARE/LEARNING WEBSITES

- <https://patternanddesign.com/7-most-common-surface-pattern-repeats/>
- <https://www.youtube.com/watch?v=XWEf3Rz3ByQ>

- c) <https://www.youtube.com/watch?v=Roe1qAH2pio>
- d) <https://www.youtube.com/watch?v=ZNBv3Cgx66Q>
- e) <https://www.youtube.com/watch?v=WoFkc9ahVH>
- f) <https://www.youtube.com/watch?v=x-p5KSo0Vas>
- g) <https://www.youtube.com/watch?v=iQ80uPwctPk>
- h) <https://www.youtube.com/watch?v=R-91AphGHj8>
- i) <https://www.youtube.com/watch?v=KsMWOCd9xRU>
- j) <https://www.youtube.com/watch?v=-CVTOLOypdM>
- k) <https://www.youtube.com/watch?v=5UMP3NMPmqw>
- l) <https://www.youtube.com/watch?v=sLR47T7nBmU>

15. PO-COMPETENCY-CO MAPPING

Semester V	ADVANCE DIGITAL DESIGN (Course Code: 4355103)						
	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
Competency	Create and edit digital designs using Designing / Editing software.						
Course Outcomes							
CO a) Distinguish between various types of repeat.	3	2	2	-	-	2	3
CO b) Select suitable repeat of motifs for fabric development.	3	2	2	3	2	3	3
CO c) Develop fabrics with different types of print using designing and editing software.	3	3	3	3	2	3	3
CO d) Illustrate different garments with the developed fabric using designing and editing software.	3	3	3	3	2	3	3

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

16. COURSE CURRICULUM DEVELOPMENT COMMITTEE

GTU Resource Persons

Sr. No.	Name and Designation	Institute	Contact No.	Email
1	Dr. F. V. Kugashiya HOD in CACD&DM	GGP, Ahmedabad	9825697874	farjana.kugashiya@gmail.com
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