



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Diploma Engineering

Level: Diploma

Branch: Printing Technology

Subject Code: DI04058051

Subject Name: Computer Aided Graphic Design

w. e. f. Academic Year:	2025-26
Semester:	4 th
Category of the Course:	Professional Elective - I

Prerequisite:	Basic knowledge of computer peripheral and graphic design
Rationale:	This course intends to use graphic design software for printing design skills. This course will teach students how to develop ready to print layouts using image editing, publishing and imposition software. After completion of this course, a student will develop skills required to design any printing job, by judiciously choosing the software with respect to the print layout.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	List the purpose of graphic design software.	R, A, E
02	Design the layout with vector-based software.	R, A, E
03	Apply various effects to an image using image editing software.	R, A, E
04	Develop layouts using various graphic softwares.	R, A, E

**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(M)	PA(I)	ESE(V)	
2	0	4	4	70	30	20	30	150



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Course Content:

Unit No.	Content	No. of Hours	% of Weightage
Unit – I Software used in Graphic Design	1.1 Introduction of Graphic Design Software: Definition, types, applications 1.2 Capabilities of Graphic Design Software: Handling text, generation of graphics, editing of images, output. 1.3 System requirement: Hardware and software environment required for Graphic Design software like Hardware, Operating System, printer, scanner.	07	25
Unit – II Vector Based Software	2.1 Definition of vector graphics, characteristics and applications. 2.2 Introduction of Tools and Menu of Adobe Illustrator and CorelDRAW software 2.3 Identify interface, palettes and color mode, handling various text and apply different formatting, Place, Import, and export various contents 2.4 Prepare Illustrations and logos using different tools and effects 2.5 Set the file for printing equipment.	07	25
Unit – III Image editing software	3.1 Definition of raster (bitmap) graphics, characteristics and application 3.2 Introduction of Tools and Menu of Adobe Photoshop software 3.3 Identify interface, palettes, and color mode. Handlings layer and apply different options like masking, cutout, image resolution and import various contents. Color separation, flattening, preflight check. 3.4 Photograph editing and Color Correction and Image creation in Adobe Photoshop 3.5 Set the file for printing equipment.	08	25
Unit– IV Imposition Software	4.1 Concept of imposition: Concept and need of imposition. Elements of a standard imposition schemes and their applications, Comparison of different types of imposition schemes in layout. 4.2 Introduction of Adobe InDesign software and its features, Tools and Menu. 4.3 Introduction of Quark Express software and its features, Tools and Menu. 4.4 Tools and menus of ArtiosCAD	08	25



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	4.5 Select page layout, imposition styles, interlocking for commercial jobs and packaging jobs		
	4.6 Graphic marks: Different types of graphics marks incorporated in an imposition scheme.		
	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
31	52	17	NA	NA	NA

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. Graphic Design: A Concise History, Hollis Richard, New York: Thames and Hudson, 1994. Print ISBN:9780500202708.
2. Elements and principles of design: Tools for digital imagery art and design, O'Connor, Z (2014) ISBN:9780992426309.
3. Graphic Design: A New History, Eskilson, Stephen, New Haven: Yale UP, 2007. Print ISBN:9780300172607.
4. The Graphic Design Idea Book, Steven Heller, Gail Anderson, Laurence king publishing ISBN-13:9781780677569.

(b) Open-source software and website:

1. Align text in various shapes: <https://www.youtube.com/watch?v=uH04AMidp7c>
2. Apply 3D effects on text: <https://www.youtube.com/watch?v=LegtbMgj-yY>
3. Use step and repeat options for design: <https://www.youtube.com/watch?v=eUdw9-8wctc>
4. How to Use Power Clip Option with Groups <https://youtu.be/yOXscNSSvkQ>
5. https://www.youtube.com/results?search_query=photoshop+masking+background+remover
6. To convert low resolution to high: <https://www.youtube.com/watch?v=Yv2gR5HAMB8>
7. create collage in photoshop: <https://www.youtube.com/watch?v=MDvAZLZ2EEY>
8. create imposition using software: <https://www.youtube.com/watch?v=z7st9CRQ5cw>



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Suggested Course Practical List:

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
1	Introduction of Adobe Photoshop Software: Exploring Photoshop's Creative Potential	I	02
2	Image editing: Enhancing and Retouching Images	I	02
3	Create a Design for social media: Optimizing Visual Content using Photoshop	I	02
4	Typography: Designing Beautiful Text Effects using Photoshop	I	02
5	Create Photo Manipulation using special effects of Photoshop	I	02
6	Creating Eye-Catching Design for Packaging Product using Photoshop	I	02
7	Creating profile for uncoated stock using Photoshop	I	02
8	Apply different color correction tool using Photoshop	I	02
9	Cut out different photographs using Photoshop	I	02
10	Introduction of Adobe Illustrator Software: Exploring Illustrator's Creative Potential	II	02
11	Create Greeting Card using Illustrator	II	02
12	Create a Logo of any brand/company using Illustrator	II	02
13	Prepare alphabetic logo using Illustrator	II	02
14	Prepare any product/service advertisement using Illustrator	II	02
15	Design certificate for the event/competition using Illustrator	II	02
16	Draw a Tray/Tube Style Carton Using Illustrator Software	II	02
17	Create Title page for any Food/Fashion/Travel Magazine Using Illustrator Software	II	02
18	Prepare a Design of Bills / Vouchers for any Product/service in Illustrator	II	02
19	Prepare a Design of Labels in multiple steps using Illustrator	II	02
20	Introduction of Adobe InDesign Software	III	02
21	Performing the Pagination and Imposition for Booklet Using InDesign Software	III	02
22	Prepare design using print and merge command	III	02
23	Create a Brochure using InDesign Software	III	02
24	Prepare invitation card design.	III	02
25	Create a master page in InDesign Software	IV	02
26	Introduction of QuarkXPress Software	IV	02
27	Prepare 4-page layout of the book in QuarkXPress	IV	02
28	Prepare advertisement using QuarkXPress	IV	02
Minimum 28 Practical Exercises			56 Hrs.



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Suggested Project List: -

1. Collect information of different graphic software available in market
2. Visit local design house and collect information of graphic design software used.
3. Install available version of graphic design software on computer/laptop
4. Visit local press and collect information of layout designing by vector-based software
5. Visit local press and collect information of image correction by image editing software
6. Visit a newspaper press and collect information of layout designing by graphic software
7. Prepare a workflow of Newspaper layout designing
8. Prepare a workflow of Magazine cover page layout designing
9. Prepare a digital layout of carton package.

List of Laboratory/Learning Resources Required:

S. No.	Equipment Name with Broad Specifications	PrO.No.
1	Computers Windows 11 or Windows 10, 64-bit, with latest Updates Intel Core i3/5/7/9 or AMD Ryzen 3/5/7/9/Thread ripper, EPYC Open CL 1.2-enabled video card with 3+ GB VRAM 8+ GB or more recommended 512 GB or more hard disk space 1280 x 720 screen resolution at 100% (96 dpi) DVD drive optional (for box installation); Internet nodes	1 to 24
2	Color printer A3 Color Laser Printer, Copy and Scan Print speed up to 30 ppm (black), 50 ppm (color), USB 2.0, Ethernet, Hardware Integration Pocket Black and white printer Laser printer Multi-function, Monochrome Black, toner cartridge Copy and scan print speed up to 30 ppm (black) USB 2.0, Ethernet, Hardware Integration Pocket	1 to 5
3	Adobe Photoshop creative cloud 2025	1 to 6
4	Illustrator Software version creative cloud 2025	7 to 16
5	CorelDRAW Software version 2025	7 to 16



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S. No.	Equipment Name with Broad Specifications	PrO.No.
6	Adobe InDesign 18.3	17 to 20
7	Quark Express 2022	21 to 24

Suggested Activities for Students:

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:

- Collect different good designs from well-known magazines.
- Prepare certificate for the college-level event.
- Prepare a newsletter for the institute.
- Design different stationery for nearby NGO
- Design different brochures on different state government and central government schemes and circulate by various social sites.

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