



# GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Design Syllabus (Industrial Design)

Subject Code : 1130304

Subject Name : Digital Tools - I

WEF Academic Year :	2024-25
Semester :	3
Category of the Course :	Core

<b>Prerequisite :</b>	Adobe Suits And Blender
<b>Rationale :</b>	Computer aided design is a norm in industry today. Designers are expected to have competencies in knowledge and application of different CAD software to be able to perform in the real world. The course is aimed at developing competencies in articulating design ideas in CAD and has the proficiency related to visualization of 2D layouts and 3D forms and its effective communication and presentation through software as an integral part of skills and tools.

## Course Scheme :

Teaching Scheme			Total Credits	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Practical		
				ESE (E)	PA(M)	ESE (V)	PA (I)	
0	2	2	3	0	30	50	20	100
Continuous marking based on completion of classroom assignments followed by a concluding marked exercise for each section. Final internal presentation incorporating the combined learning of all units will be marked. Concluding jury will assess the interest and effort demonstrated by the student, along with the actual progress demonstrated during the course.								



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## Course Content:

Sr. No.	Course Content	No. of Hours	% of Weightage
1	<b>UNIT I: Introduction to Adobe Suits</b> Basics of 2D software and its application in layouts, visual content, form manipulation and visualization of forms. Editing Vector graphics and manipulation of shape, color, size and position. Bitmaps and vector images. Exploration of various features and their applications on design of layouts, fonts, image transformation etc. Transforming colors, textures and surfaces and special effects. Suitable file formats and their use for different purposes. Compatibility with other graphic and 3D software.	20	35
2	<b>UNIT II: Introduction to CAD</b> Basic to advanced functions and applications of CAD Basic tools such as Line, Circle, Rectangle, Polyline, Trim, Extend, Copy, Mirror, Rotate, Erase, Offset, Move, Array, Scale, Fillet, Explode and their applications in representing or visualizing 2D and 3D forms and drafting of technical drawings. Different commands and their functions, visualizing forms, assigning dimensioning of objects, assigning materials etc. Methods of creating files for Rapid Prototyping and manufacturing.	16	30
3	<b>UNIT III: Project applications</b> Assignments to demonstrate application and creative visualization of graphic images and layouts in Illustrator. Assignments to demonstrate visualization/representation of orthographic drawings and 3D objects/spaces/ products CAD.	20	35
<b>Total</b>		<b>56</b>	<b>100</b>

## Reference Book:

- Jain, Satish, M. Geetha, Corel Draw Training Guide, 2018
- Shah, Hemal, Learning Corel Draw the Easy Way: Learn CorelDraw in the most efficient and simple way 2016
- AutoCAD 2021 Beginners Guide (AutoCAD Beginners Guide) Paperback, 2020 by Cadfolks
- Brian C. Benton, Omura, George, Mastering AutoCAD 2021 and AutoCAD LT 2021



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## Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level*
01	Develop competency in use of graphic software for creating and manipulating visuals, layouts and other visual outcomes	
02	Enable use and application of CAD in technical drawings, 2D and 3D form visualization and representation with detailed specifications and accuracy.	
03	Enable students to apply knowledge and skills in their presentations of design concepts with clarity, details and visual feel.	
04	Enable effective visualization of 3D forms through application of 3D software.	
05	Explore various possibilities of different graphic and 3D software and their potential application in work.	
06	Create advanced digital competencies in visualization, representation and design specifications for various design projects.	

\*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create

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