Program : **Diploma in Electrical and Electronics Engineering / Renewable Energy/ Electrical Engineering & Electric Vehicle Technology**	
Course Code : **2038**	Course Title: **Engineering Graphic using CAD software**
Semester : **2**	Credits: **No Credit**
Course Category: **Engineering Science**	
Periods per week: **3 (L: 0 T: 0 P:3)**	Periods per semester: **45**

Course Objectives:

- To use CAD software for drafting and modelling.
- To learn the basics of 2D modeling of engineering components.

Course Prerequisites:

Topic	Course code	Course name	Semester
Basics of engineering graphics		Engineering Graphics	1
Geometry		Mathematics	Secondary School

Course Outcomes:

On completion of the course, the students will be able to:-

COn	Description	Duration (Hours)	Cognitive Level
CO1	Identify the tools in CAD software	9	Applying
CO2	Develop and draw figures using CAD software.	12	Applying
CO3	Sketch and practice isometric drawings using CAD software.	12	Applying
CO4	Construct two dimensional figures using CAD software.	6	Applying
	Lab Exam	6	

CO-PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1			3				
CO2	3			3			
CO3	3			3			
CO4	3						

3-Strongly mapped, 2-Moderately mapped, 1-Weakly mapped

Course Outline

Module Outcome	Description	Duration (Hours)	Cognitive Level
CO1	**Identify the tools in CAD software.**		
M1.01	Study basic tools of CAD software and drawings.	3	Understanding
M1.02	Apply software tools and draw the sketches.	6	Applying
CO2	**Develop and draw figures using CAD software.**		
M2.01	Develop and draw figures using CAD. (at least 6 figures)	12	Applying
	Lab Exam- 1	3	
CO3	**Sketch and practice isometric drawings using CAD software.**		
M3.01	Develop and draw isometric figures using CAD. (at least 4 figures)	12	Applying
CO4	**Construct two dimensional figures using CAD software.**		
M4.01	Develop and draw two dimensional figures using CAD. (at least 2 figures)	6	Applying
	Lab Exam- 2	3	

Text / Reference:

T/R	Book Title/Author
T1	Engineering graphics with Auto CAD- R.B. Choudary/Anuradha Publishes
T2	K. C John - Engineering Graphics - PHI Learning Private Limited
R1	P. I. Varghese - Engineering Graphics - VIP Publishers
R2	Anilkumar KN- Enginnering Graphics,Adhyuth Narayan Publishers
R3	N. D. Bhatt, Engineering Drawing - Charotar Publishing House, Anand, Gujrat 2010; ISBN: 978-93- 80358-17-8
R4	M. B. Shah and B.C.Rana - Engineering Drawing - Pearson Publications

Online Resources:

Sl.No	Website Link
1	https://en.wikipedia.org/wiki/AutoCAD
2	https://nptel.ac.in/courses/112102101/
3	https://www.youtube.com/watch?v=cmR9cfWJRUU
4	https://web.iit.edu/sites/web/files/departments/academic-affairs/academic-resource-center/pdfs/Introduction_to_AutoCAD.pdf
5	https://tuto-computer.com/autocad-tutorial-pdf.html
6	https://wiki.auckland.ac.nz/download/attachments/31851381/AutoCAD+Tutorial+002.pdf

Student Activity

Suggested Open-ended Experiments:

Students can do open ended experiments as a group of 3-5. There is no duplication in experiments in between groups. This is mainly for the purpose of continuous internal evaluation and a score of 15 marks. Students should prepare a separate report on open ended experiment of their choice.

Example: Develop an isometric drawing of an electric machine using CAD software.