COURSE TITLE : COMPUTER AIDED DRAFTING LAB
COURSE CODE : 401
COURSE CATEGORY : A
PERIODS/WEEK : 3
PERIODS/SEMESTER : 54
CREDITS : 2

TIME SCHEDULE

MODULE	TOPIC	PERIODS
I.	Introduction to CAD and CAD an overview	10
II.	Working with CAD	12
	Test – I	3
III.	Editing ,adding dimensions with text	12
	Test – II	2
IV.	Developing 2D drawing	12
	Test – III	3
	Total	**54**

Rationale

The usage and knowledge of advanced packages in Civil Engineering is an essential for the students in their carrier and profession

OBJECTIVES

Upon completion of the course the student should be able to:

1.1 Understand the importance of CAD
- 1.1.1 Familiarize the operating tools in CAD
- 1.1.2 Perform format setting, usage of templates for drawings

2.1. **Working with CAD**
- 2.1.1. Able to do the preliminary settings of CAD work sheet

3.1 **Editing, adding dimensions and text**
- 3.1.1 To understand editing works in CAD.
- 3.1.2 Able to draw the drawings of simple structures, single storied and double storied buildings with all details and familiarize the key board operations while drawing

4.1 Developing 3D drawings
- 4.1.1 perform the developments of 3D Drawings

CONTENT OUTLINE

I.1. Introduction to Computer Aided Drafting:
- 1.1.1 Drawing using CAD
- 1.1.2 Advantages of using CAD
- 1.1.3 Three dimensional geometry
- 1.1.4 Solid modeling
- 1.1.5 CAD system components
  - 1.1.5.1 Computer hardware and software
  - 1.1.5.2 CAD work station
  - 1.1.5.3 Elements of Drawing window

1.1.5.4 Application of CAD

1.2. CAD an Overview:

1.2.1 Development of CAD – System requirements
1.2.2 Drawing by CAD
1.2.3 Programme operation
1.2.4 CAD basics

1.2.4.1 Start up dialogue box
1.2.4.2 Start from scratch-create new files, format setting
1.2.4.3 Use a template-open a drawing
1.2.4.4 Accessing commands-setting tool bars
1.2.4.5 Data entry

2.1 Working with CAD:

2.1.1 Setting limits
2.2.2. Drawing lines
2.2.3 Using Grid and Snap
2.2.4 Saving work
2.2.5 Drawing simple shapes (Eg., Rectangle, Circle, Arc, etc)
2.2.6 Exit and quit commands

3.1 Editing, Adding dimensions and Text:

3.1.1. Editing drawings using various MODIFY commands
3.1.2 Add dimensions and texts on drawings
3.1.3 Developing simple buildings with CAD (Eg., Residential building, Library hall, Town hall, School building, etc.)
3.1.4 Developing detailed drawing.

4.1 Developing 3D drawings

4.1.1. Pictorial drawing

4.1.1.1 Types of pictorial drawings
4.1.1.2 Develop an isometric drawing
4.1.1.3 3D wire frame modeling

NOTE:- Sufficient theoretical input on each command must be provided, before the students go for practicing the commands.

REFERENCE BOOKS

1. AutoCAD - Dayanithi
2. AutoCAD with Application - Sham Tickoo