Lok Jagruti Kendra University
University with a Difference

Diploma in Architectural Assistantship

LJ Polytechnic

Course Code:025080305

Computer Aided Drafting

Programme / Branch Name	Diploma in Architectural Assistantship					
Course Name	Computer Aided Drafting				**Course Code**	025080305
Course Type	HSSC	BSC	ESC	PCC	OEC	PEC

Legends: HSSC: Humanities and Social Sciences Courses BSC: Basic Science Courses
ESC: Engineering Science Courses PCC: Program Core Courses
OEC: Open Elective Courses PEC: Program Elective Courses

1. Teaching and Evaluation Scheme

Teaching Hours / Week / Credits				**Evaluation Scheme**			
L	**T**	**P**	**Total Credit**	**CCE**	**SEE (Th)**	**SEE (Pr)**	**TOTAL**
0	0	4	2	50	-	50	100

Legends:
L: Lectures T: Tutorial P: Practical
CCE: Continuous & Comprehensive Evaluation
SEE (Th): Semester End Evaluation (Theory)
SEE (Pr): Semester End Evaluation (Practical)

2. Prerequisites

- ✓ Computer Application & Drafting

3. Rationale

Drafting and developing drawings is an essential skill for a student of architectural assistantship and due to the availability of the software, the task of drafting has become simplified and easy. The student shall prepare architectural basic drawings, presentation drawings on a computer with CAD as a drafting tool. In this course, the student acquires knowledge of CAD 2D, the basic knowledge of 3D drawing software such as Google Sketch Up and Revit Architecture.

4. Objectives

- ✓ To help students to understand the application of computers in the field of architecture.
- ✓ Use to prepare architectural basic drawings, presentation drawings on the computer.

5. Contents

Unit No.	Unit Name	Topics	Learning Outcomes	% Weightage	Hours
1.	**Introduction**	1.1. Prepare a New Drawing From Scratch With the "Create Drawing" 1.2. Introduction of Drafting Tools like Co-Ordinate System, Polar and Ortho- Dynamic Input, Object Snap, etc.	• Prepare a New Drawing From Scratch With the Help of Drawing Tools. • To Set CAD Working Space With the Help of Tools as Per Drawing Requirements.	10	08
2.	**Creating & Modifying Tools**	2.1. 2D Entity Command Line, Polyline, Spline, Ploy Line, Arc, Rectangle,Line, Ellipse, Polygon 2.2. Modification Commands Offset, Copy, Paste, Erase, Trim, Break, and Mirror, And Array, Move, Rotate, Stretch, Lengthen, Trim Extend, Fillet 2.3. Replication of Drawn Objects, Block, Insert a Block, Edit Block, Explode Block	• Use 2D Commands to Draft/Draw Building Components Such as A Wall, Door, Window. • Use Modification Tools Commands to Alter the Existing Drawing.	20	10
3.	**Technical Drawings**	3.1. Preparation of Floor Plans 3.2. Preparation of Sections and Elevations	• Use of Drawing and Modification Tools Commands to Create Technical Drawing and Final Presentation.	20	12
4.	**Presentation Drawings**	4.1. Multiline Text and Text Writing Text, Formatting Text Style, Editing Text 4.2. Dimensioning Formatting Dimension Style Editing Dimension Style 4.3. Use of Leader 4.4. Multiple Hatch Commands 4.5. Applying Components from Autocad Libraries (Design Centre) to Draw	• Make Presentation Drawing Using 2D Commands and Add Text and Dimensioning to Them Using Appropriate Commands.	30	14

5.	**Plot/Print**	5.1. Plot Dialogue Box 5.2. Printing in PDF and Save PDF	• Print/Plot the Prepared Drawing.	20	12
				Total Hours	**56**

6. List of Practicals / Exercises

The practicals/exercises have been properly designed and implemented in an attempt to develop different types of skills, so that students can acquire the competencies/programme outcomes. Following is the list of practicals/exercises.

Sr. No.	Practicals / Exercises	Key Competency	Hours
1.	Prepare simple concept using basic command	Students will learn to apply basic commands in drafting	04
2.	Create basic shape using the command	Students will learn to draft basic shapes	04
3.	Detailing in conceptual development	Students will learn to create concept drawings	06
4.	Draft walls as per dimensions in the plan	Students will learn to draft technical drawings	04
5.	Add openings using modification commands in walls	Students will learn to use Different modification commands	04
6.	Add furniture blocks in the plan	Students will learn to use Different modification commands	02
7.	Create a presentation plan in CAD with text & Dimensions	Students will learn to create presentation Drawings	04
8.	Create a site plan with all hatches & components	Students will learn to create presentation Drawings	06
9.	Generate elevations as per plan	Students will learn to draft technical drawings	06
10.	Draft sections & other technical details as per Design	Students will learn to draft technical drawings	06
11.	Plotting of Drawings as per scale requirements	Learn to generate PDF as per drawing scale	04
12.	Final Portfolio	Learn to final Portfolio composition	04
		Total Hours	**56**

7. Reference Books

1) Harnessing AutoCAD Release -2012 by Thomas A. Stellman, G. V.Krishnan, Robert A. Rhea, Delmar Publication
2) AutoCAD 2011 by Ellen Finkelstein, Wiley India Pvt Ltd
3) Engineering Graphics with AutoCAD by Kulkarni, D.M.Rastogi, A.P.Sarkar, PHI Learning Pvt. Ltd

8. Open Sources (Website, Video, Movie)

1) Archi CAD by Graphisoft
2) Auto CAD by Autodesk