

AMID-23 ADVANCED COMPUTER APPLICATIONS

Course Overview: To orient the student to create two and three dimensional objects in space with special emphasis on presentation and visualization of interiors using rendering techniques using CAD.

Objectives of the course:

To explore computer modeling techniques using CAD.

Expected Skills / Knowledge Transferred:

To learn basic skills of modeling, scripting (rendering) in CAD, and to exercise methods of interface within CAD.

Course Contents:

Unit – I

Starting AutoCAD: Introduction to the menu, starting drawings from scratch. Creating and using templates- starting drawings with setup wizards. Saving and closing a file.

Unit – II

Using co-ordinate systems – The UCS. Working with Cartesian and polar coordinate systems. Using displays with shortcuts.

Unit – III

Setting up the drawing environment – setting the paper size, setting units, grid limits, drawing limits, snap controls. Use of paper space and model space.

Unit – IV

Basic commands dealing with drawing properties: Layer control, change properties, line weight control, etc.

Unit – V

Inquiry methods: Using data base information for objects, calculating distance, angle, areas etc.

Unit – VI

Dimensioning commands and blocks: Dimensioning the objects in linear, angular fashions along with quick time dimensioning etc. Creating and working with blocks, creating symbols, use of blocks in creating a layout, of a residential area- one exercise to be done as lab assignment.

Unit – VII

Orientation towards 3D : 2D to 3D conversion, perspective view, walk through the layout.

Unit – VIII

3D-Max : Understanding 3D, theory behind 3D modeling. Preparing for construction of 3D models.
Construction of 3D surface models- extrusion, wire frame, creation of a shell, elaborate surfaces.

Unit –IX

Solid modeling : concepts behind solid modeling, composite solids creation and modification, solids display and inquiry.

Unit – X

Rendering and presentation. Printing and plotting.

Reference Books:

- Teyapoovan. T., Engineering Drawing with Auto CAD 2000. Vikas Pub House Pvt Ltd, New Delhi, 2000.
- Parker, Daniel and Rice, Habert. Inside Auto CAD Daniel, 1987. Georgeomura,
- Auto CAD, Release 2000.
- Oscar Riera Ojed , Lucast Guerre, Hyper realistic Computer Generated Architectural Renderings .
- Giuliano Zampi Conway Lloyd Morgan, Virtual Architecture.