

Module/Subject Title: **CAD III**

Course Code: BAIDO-1-1-09

Pre-requisite Subjects:	Co-requisite Subjects:
CAD I & II	Studio V
Computer Studies	

Subject Aims:

- Achieve an improved standard of 3D computer-aided design
- Introduces students to new software such as Sketch-up and Viz 4. This is essential in order to scaffold the later CAD module and Project work
- Support project work

Indicative Subject Content:

Introduction to 3D CAD: Co-ordinate Systems

Introduction to course; revision of 2D AutoCAD; defining world co-ordinate and user co-ordinate systems; orientation of the current UCS; changing the position and orientation of UCS.

3D Entity Representation

Explanation of system variable thickness: designing an extrusion thickness to a 2D entity; entering 3D points for an entity; absolute, relative and polar co-ordinates; drawing exercises.

The Command Layer

Drawing Commands, X,Y,Z point filters; Conversion of 2D entities to produce 3D drawings; 3D drawing entities (e.g. 3D Face, and 3D polyline.); Drawing exercises System variables concerning drawing appearance;

Managing Surfaces

Making 3D face edges invisible; Polygon mesh specifying each vertex; Producing surface models using pre-loaded surface commands; Introducing the D View command. (perspective view)

Modifying Drawings

Modifying 3D drawing using 2D editing commands; Using the polyedit command to modify the vertices of a surface mesh; fitting B-spline surfaces to polygon meshes; exploding a polygon mesh to 3D faces.

Viewports

Using the Viewports command; Creating multiple viewports
Select 3D viewpoints to display a model from various points; creating blocks of 3D entities; Developing the D-View command

Introduction to Sketch-Up

Introduction to basic principles of use of this software for constructing 3D computer models.

Introduction to Viz.4

Introduction to basic principles of use of this software for the use of computer visualization of a building interior.