

3D VISUALISATION IN ARCHITECTURE

1. **Name :** 3DVISUALSATION IN ARCHITECTURE
2. **Sector :** **Information & Communication Technology**
3. **Code :** **ICT 115**
4. **Entry Qualification :** SSC. Passed
5. **Terminal Competency :** After completion of the training participants would be able to:
 - Do the work on 3D Production for Architectural Visualization
 - drawing and converting them into 3D visualization
 - Create Intuitive Walkthroughs and Flybys for Architectural assignments.
 - Design 3D Simulations for Architecture Designs & Products.
6. **Duration :** 240 Hours
7. **Contents :** Given below

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> • Lay out of drawing sheets. Drawing conventional lines. • Free hand sketching of geometrical models. • Printing of single stroke & double stroke lettering • Methods of Perspective and Design Fundamentals. • Coloring & shading, Rendering & Presentation. • General Information and table. • Structural Design, Zooming Regulation • To create an image map area using an image map. • Viewing Image Maps. • Working with Slice tool, Working with Layers in Rollovers & Using the Rollover palette. • Viewing animation in Image ready. • Drafting layout of Architectural Drawing. • Making Inertial part of drawing • Sectional View of Layout. • Convert AutoCAD files to 3DX Ma• format. 	<p>Drawing Basics</p> <ul style="list-style-type: none"> • Drawing instruments, equipments and materials their use, care & maintenance, safety precautions. Code of practice for general and architectural drawings. • Importance of lettering and figures sizes, proportion etc. <p>Perspectives and Design Fundamentals</p> <ul style="list-style-type: none"> ○ Technical relation with Perspectives and Design Fundamentals. <p style="text-align: center;">Perspectives and Design Fundamentals.</p> <p>Architecture Design Walkthroughs</p> <ul style="list-style-type: none"> • Rendering & Presentation. • Principal of Planning Rules & Classification of • Method of Drawing, Rules & regulation • General Information and table. • Rules of Architecture in Designing and approach of planning • Building types, Zooming Regulation. <p>Digital Imaging</p> <ul style="list-style-type: none"> • Application & usages of Digital Image. • Image Mapping, Viewing Animation.

- Modeling level design for building.
- Creating primitive object.
- Using the modifier to alter an object's shape.
- Creating & editing spline object.
- Converting spline into geometry using modifiers.
- Setting up viewports with background images.
- Editing a model at sub-object levels.
- Using Merge and XREF to bring external object.
- Generating texture map for real – time application.
- Generating texture element and exporting to real – time 3D engine & rendering it.
- Using architectural material on the wall.
- Creating a scene is in interiors & exterior design with the help of fly camera & save it.
- Calculating required no. of frames.
- Creating a free & Target camera.
- Adjusting animation length for suitable camera motion.
- Applying a path constraint to camera.
- Using set key to animate the camera target.
- Lighting a space. E.g. (Interior living room space.)
- Setup the scene.
- Adding a light with a preset value to the entryway.
- Positioning the light & fixture assemblies.
- Adding default light to the scene.
- Project.

AutoCAD

- Introduction & Applications of Auto-Cad.
- UCS Co-ordination System.
- Shortcut keys, Function keys.

Modeling

- Introduction of Modeling.
- Features of Modeling.
- Modifiers □ Bend Modifier, Extrude, HSDS (Hierarchical subdivision surface), and Surface weld Modifier.

Texturing

- Different types of Texture.
- Render to texture tool.
- Various scene elements into texture.

Walkthrough

- Scene □ Built a 3D environment with material, light and cameras. Path Constraints.
- Animation length, Auto key.

Lighting

- Uses of Lighting, Types of light □
- Categories of lighting situation.

LIST OF TOOLS & EQUIPMENTS

1. Hardware: Pentium IV PCs with 1 GB RAM, (Multimedia Enabled, and Windows XP), NVIDIA GeForce 7300 GT
2. Software: Adobe Photoshop CS3, Autodesk 3DS Max 9.0, SoundForge, Adobe Premiere.