



**Dempo Charities Trust's  
DHEMPE COLLEGE OF ARTS & SCIENCE  
Miramar, Panaji-Goa**

**Blender**

**[2 Credits 30 hours]**

**Course Objective:**

The course is intended to visualise and design realistic 3D object models and to learn to animate them using Blender

**Learning Outcome:**

The students will be able to design realistic 3D objects and use them to create animated video clips.

**Course Content**

1. Introduction to 3D Visualization: Introduction, Visualizing 2D Views of a 3D Object, Visualize Shapes at Right Angle, Identifying Hidden Surfaces, Constructing a 3D Object from 2D Views. (5)
2. The Blender Interface: The Blender Screen. Window Types, The User Preferences Window, Open, Saving and Appending Files, Packing Data, Importing Objects (from other file formats), Moving Around in 3D Space, Window and Button Control, Creating Viewports. (5)
3. Creating Object and effects: Creating and Editing Objects and Materials and Textures. Working with Basic Meshes, Using Main Modifiers to Manipulate Meshes, Edit Mode-Mesh Editing. The Tool Shelf, Proportional Editing, Joining/Separating Meshes, Halo, Basic Texture Settings. Using Images, Movie, Displacement Mapping, Color, Stars and Mist, Lighting and Cameras, Render Settings, Ray-Tracing (mirror, transparency, shadows).(7)
4. Animation Basics and Adding 3D text: Basic Key-framing and Auto Key-framing, Working with the Graph Editor and Dope Sheet. Animating Materials, Lamps and World Settings, Rendering animation, Exporting animations to desired format, Blender 3D Text Settings and Converting to a Mesh. (7)
5. Creating the Mini Project (6)

**References:**

1. James Chronister, "Blender Basics Classroom Tutorial Book", cdschools.org 4<sup>th</sup> Edition.
2. Blain John M. The Complete Guide to Blender Graphics (English, Paperback, Blain John M.), Taylor & Francis Inc.

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