CSC 425: Computer Graphics (2 Units)(L22: T8: P0)

Department of Computer and Information Sciences

Covenant University
1. CSC425

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Physical and logical input devices; stroke devices, string devices, valuator devices, choice devices, interaction with mouse and keyboard, touch-screen. Windows-to-Viewport transformation; points and lines; line-drawing algorithms; parametric representation of vectors and curves; line-plane intersections; clipping algorithms, antialiasing lines; circle-generating algorithms; fill Areas; character generation; attributes of output primitives. Translation; scaling; rotation. Matrix representations and homogeneous coordinates; composite transformations. Polygon surfaces; curved surfaces; sweep representations; wire-frame models; surface models; solid models. 3D Transformations: Translation, scaling, rotation, rotation about an arbitrary axis, affine transformations; projections. Hidden surface removal; polygon culling; z-buffer algorithm; illumination model; surface-shading methods; texture mapping. Scanning images, capturing and compositing images. Basic layout for print, interface design on screen, page layout for WEB graphics, text and typography. Preparing images for WEB and developing a Web-based installation and presentation. Computer-Aided Design; graphs, art and animation; Graphical User Interface; Image Processing; Graphics software packages; colour models.