

## COURSE CONTENT

**Introduction to computer graphics:** Raster Graphics, Graphics hardware, Graphics Libraries and an overview of any one of them such as OpenGL.

**Scan Conversion:** Line DDA, Midpoint and Bresenham's algorithms, circle, ellipse, parabola, hyperbola.

**Line Clipping**-Cohen Sutherland, Cyrus Beck, Midpoint Subdivision, Liang-Barsky, Nicholl-Lee-Nicholl

**Polygon clipping** -Sutherland Hodgman, Weiler Atherton

**Polygon Filling**-Seed fill, Scanline Approach

**Anti-Aliasing:** Un-Weighted and Weighted Area Sampling, Gupta-Sproull Algorithm, Anti-Aliasing

**Transformation:** 2D Transformation - Geometrical Transformation, Homogeneous Coordinates, Window to View port Transformation, Translation, Scaling and Rotation, 3D Transformation - Translation, Scaling and Rotation in 3D