1. Basic graphics concepts and algorithms
   - Graphics systems, frame buffer, pipelines
   - OpenGL concepts: primitives, state variables
   - Clipping algorithms
   - Rasterization algorithms
   - fractals
2. Vector Geometry
   - Homogeneous coordinates
   - Vector products, Intersection, Distances
   - Parametric curves and surfaces
   - Normal computations
3. Transformations
   - 3D affine transformations
   - Concatenations of 3D transformations
4. Viewing and Camera
   - Camera transformations
   - Parallel and perspective camera
   - Perspective projection matrix
5. Rendering
   - Ambient, diffuse, specular reflections
   - Gouraud and Phone shading
   - Texture mapping
6. Visible Surfaces
   - Z-buffer
   - Depth sorting
   - BSP tree
7. Raytracing
   - Whitted model, recursive algorithm
   - Reflected ray, transmitted ray, shadow ray
8. Radiosity
   - Principle
   - Hemisphere and hemicube
   - Incremental radiosity