1. Projection and 3D coordinate systems
   - Viewing 3D in 2D (if I asked for the "top view", could you label the axes?)
   - Screen/viewport vs. world (including clipping)
   - Difference between orthographic and perspective projection, frustums
   - Mathematics of perspective projection (i.e. dividing by the z-coordinate, similar triangles)
   - Z-buffering for hidden surface removal
   - How projection and viewing work in OpenGL
   - Review: Class 10-12, Lab 9, HW 6, OpenGL Redbook Chapter 3
2. Lighting
   - How lighting works through light vectors and the normal vectors of objects
   - Difference between ambient, diffuse, specular, and emissive light
   - How lighting and materials work in OpenGL
   - Review: Class 13-14,16, Lab 10, HW 6, OpenGL Redbook Chapter 5
3. Hierarchical models
   - Matrix stack, push and pop
   - Using trees to describe hierarchical models
   - How hierarchical modeling works in OpenGL (depth-first tree traversal)
   - Review: Class 14-16, Lab 11-12, HW 6
4. Texture mapping
   - Texture mapping in 1D and 2D
   - Perspective-correct texture mapping in 3D
   - Texture mapping surfaces (sphere, cone, etc)
   - Review: Class 16-17, Lab 13, HW 7-8, OpenGL Redbook Chapter 9
5. Ray-tracing
   - Vectors (direction, magnitude, addition, subtraction, dot and cross products, normals)
   - What types of interactions can be computed through ray-tracing?
   - Ray-tracing algorithm, difference between ray-tracing and rasterization
   - Ray equation and relationship to computer graphics components (camera, screen, pixels, light sources, objects, etc)
   - Ray-object intersections (plane, triangle, sphere, cone, etc)
   - Ray-tracing in Blender (basics)
   - Review: Class 18, 20, 22-23, Lab 18, HW 8

6. Less emphasis
   - Blender 3D, Lab 14-17, HW 8, Blender 3D Online Textbook
   - Bézier surfaces, Class 19
   - Meshes, Class 21
   - Animation, Class 22-23
   - Barycentric coordinates, Class 22-23
   - 3D printing, Class 24