1. **Course number and name:** CSCI 5437 Computer Graphics

2. **Credits and contact hours:** 3 credit, 3 contact

3. **Instructor’s or course coordinator’s name:** Robert Cook, PhD

4. **Text book, title, author and year:**
   a. **Other supplemental materials:** None

5. **Specific course information**
   a. **Brief description of the content of the course (Catalog Description):** Course covers fundamentals of the theory of computer graphics, including raster systems, 3D viewing, illumination, shading and solid modeling. A standard computer graphics language is also introduced in cooperating with the learning of the theory.
   **Prerequisites:** A minimum grade of “C” in CSCI 3230 and CSCI 3236
   b. **Indicate whether a required, elective, or selected elective course in the program:** Elective course for BS-CS.

6. **Specific goals for the course**
   a. **Specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.**
      - Not a required course. It is not used to assess student outcomes.
   b. **Student Outcomes**
      - N/A

7. **Brief list of topics to be covered**
   - Trig and Vectors
   - OpenGL
   - XML
   - Android
   - Matrix Transformations
   - OpenGL ES
   - LibGDX
   - Illumination
   - Graphic Formats
   - SVG
   - Textures
   - Blending
   - Antialiasing
   - Ray Tracing
   - Environment Mapping
   - Scene Representation
   - Models, Stencils, Shaders
   - Curves and Quaternions
   - Performance