

# CS7GV03 - Assignment 1

## Reflectance Models

21 January 2025

# Goals

- Assessment Details:
  - This Lab is worth 15% of the mark for the module
  - You must demo the lab next week Tuesday, **28<sup>th</sup> January 2025** and submit a YouTube video (with Voice-over)
- Compare 3 different reflectance models
  - One of these should be Phong / Blinn-Phong
  - At most one non-photorealistic technique (e.g., Gooch, Toon)
  - One or more: “realistic”<sup>\*</sup> technique e.g. (minnaert, cook-torrance, oren-nayar) or elsewhere (see also reference on the next page)

<sup>\*</sup> May be an approximation, see e.g. [Lossaso, reference last page]

# More Goals

- Implement a demo using Vertex and Pixel Shaders in GLSL
- Implement a scene with several (at least 3) rotating objects to compare different shading models across varying reflectance parameters
  - e.g., phong exponent/shininess,  $k_s$  specular coefficient

# Reference

- [Losasso] “Surface Reflectance Models”, Frank Losasso (nVidia)
  - [http://web.cs.wpi.edu/~emmanuel/courses/cs563/S05/projects/surface\\_reflection\\_losasso.pdf](http://web.cs.wpi.edu/~emmanuel/courses/cs563/S05/projects/surface_reflection_losasso.pdf)