

## CS476-506 Homework 6 Lighting Model Exploration

Students, The purpose of this assignment is to learn how to use the simple lighting models that we have been working on. Let's review the model.

Ambient:  $I_a = 0.02$

Diffuse:  $I_d = \mathbf{L} \cdot \mathbf{N} / (|\mathbf{L}| |\mathbf{N}|)$

Specular:  $I_s = ((\mathbf{H} \cdot \mathbf{N} / (|\mathbf{H}| |\mathbf{N}|))^n)$

I want you to consider the following object:

$$(x-300)^2 / 200^2 + (y-200)^2 / 300^2 + z^2 / 250^2 = 1$$

Consider a light source in the upper right octant of your coordinate system ( $z > 0$ ).

Consider an eye position in the lower left octant of your coordinate system ( $z > 0$ ).

Select a range of colors for your diffuse lighting model component.

You should use a blend of color and white for the specular component.

The power "n" should make the specular spot grow and shrink.

Use perspective projection to a screen located at  $z = 1000$ .

Due 11-22-2009