

## CSC418 Computer Graphics

- Shading
- Color



## Flat Shading

- Apply only one illumination calculation for each face.



- Which point on the facet do we illuminate?
- Pros?
- Cons?

## Gouraud Shading

- Apply the illumination model at vertices and interpolate the color intensity across faces.



- Remember bilinear interpolation?
- Pros?
- Cons?

## Phong Shading

- Not to be confused with Phong Illumination model.
- Apply the illumination model at every point on the face.
- Calculate the normal at any point in a face by interpolating the vertex normals of that face.

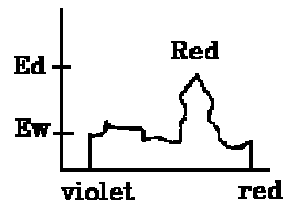
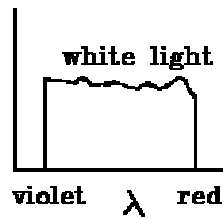


- Pros?
- Cons?
- Silhouettes?

## Light & Color

- Visible Light (Energy at various wavelengths) 400-700nm

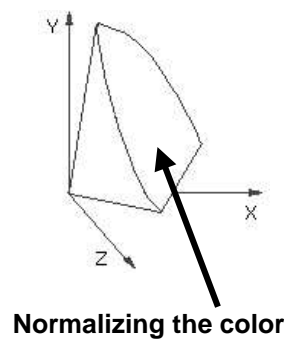
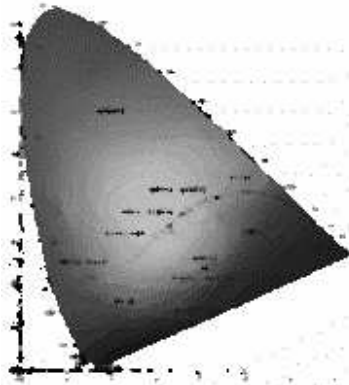
Energy



- HSV (Hue, Saturation, Value)
- Complementary colors
- 3 color matching
- Metamers
- Pure colors

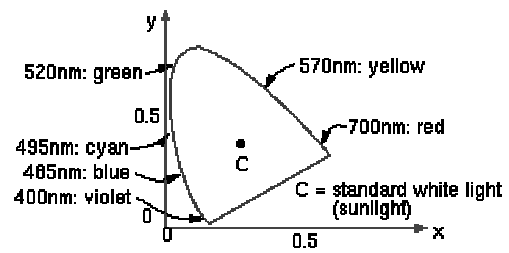
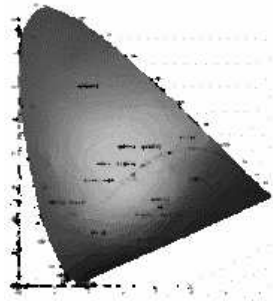
## CIE chromaticity

- CIE theoretical XYZ colors (not physically realizable) why?



## CIE chromaticity

### ■ Color gamut



## Next Lecture

midterm!!

...and the crowd goes wild!