

**CDS 301 Spring 2013**  
**Scientific Information and Data Visualization**

**Project 1**

**Assignment Date: March 05, 2013**

**Due Date: March 19, 2013**

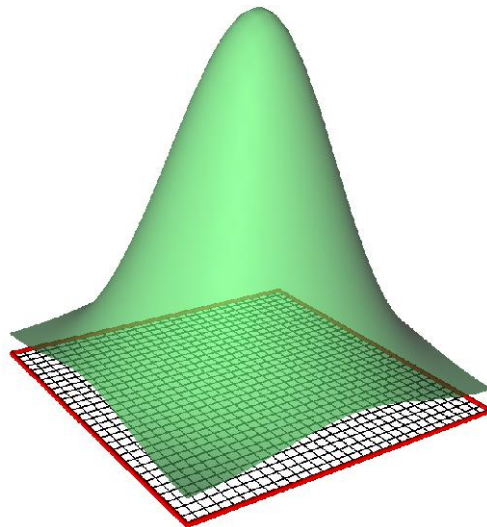
**Visualization of the Gaussian Surface in 3-D in C/OpenGL**

The purpose of this project is to learn OpenGL in C program language for creating effective visualization.

The 2-D Gaussian function is defined as

$$f(x, y) = e^{-(x^2+y^2)}$$

You are asked to implement C/OpenGL to generate the following figure.



The figure has a smooth or Gouraud shading. It is rendered transparent. You also need to render the domain grid in the same Figure. Your resulting plot should be very similar to the image shown above, but not necessarily the same.

A half-finished sample C/OpenGL is provided for your reference.

**Submission: electronic submission only.** You need to submit two files: (1) a WORD document that contains the image rendered, and a short description of the image and the rendering method. (2) The actual C/OpenGL program. I will test your program. Credit will be given to elegant program style with sufficient comments and explanation.