# CHEN3600 – Computer-Aided Chemical Engineering Spring 2012

# Chemical Engineering Department CQ9

**T.D. Placek Auburn University**

**CQ9 – Finally, Continuous Distributions**

DO NOT SUBMIT YOUR SOLUTION!

1. Consider sampling from a normal distribution that has a known mean of 10 and a known standard deviation of 1.
   1. Prepare samples of size 10, 30, 100, 300, and 1000.
   2. Prepare a normal probability plot to determine whether the samples are indicative of coming from a population with normal characteristics.
   3. Comment on the “goodness of fit” for the values furthest from the mean.
2. Determine the following values for each of the above samples:
   1. estimated mean
   2. estimated standard deviation
   3. 95% confidence interval for mean
   4. 95% confidence interval for standard deviation.
   5. Plot the above 4 parameters versus sample size. What observations would you make?