Name: _____ **Fall 2014**

QUIM3025L Section: _____ **Date:_____**

Experiment 4: Calibration and handling of volumetric glassware: "Calibrating a 50 mL buret"

Pre-lab Exercise (10 pts)
***Include References**

1. What do the symbols "TD" and "TC" means on your volumetric glassware? (1pt)

2. What are the difference between a Calibration Curve Plot and a Control Chart Plot? Mention at least two (2pts)

3. An empty 10 mL volumetric flask weighs 10.4589 g. When the flask is filled to the mark with distilled water and weighed again in the air at 30°C, the mass is 20.5089 g. What is the true volume of the flask at 30°C? Show your calculations! In your opinion, is this a "good" flask? (2pts)

4. What are systematic errors and how can these be estimated?

5. Answer the following:
   a. A Correction Curve is a plot of _____ vs _____.
   b. If you delivered a volume equal to **37.96 mL** with your buret, but the correction curve shows a correction factor of **+0.03mL**, then the "actual" volume delivered was _____.
   c. If one observation (delivered volume) falls outside the *warning lines*, what should you do?
      Hint: Use your textbook as a reference to answer this question.