Exp 1: Scientific Measurments - CHEM 117-506

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Purpose: To become familiar with the proper procedure of taking scientific measurments and working with lab equipment

Procedure:

1. Acquire one of each of the following: 125 mL Erlenmeyer flask, 100 mL beaker, and ~~100~~ 50 mL graduated cylinder
2. Pick one of the pieces of glassware and write down which was chosen
3. Go to a top-loading balance, tare, and weigh the dry glassware. Record all digits of mass.
4. Go to an analytical balance, close the doors, tare, open the doors, then place dry glassware on it. Close doors and record all digits of mass.
5. If beaker or graduated cylinder: Fill glassware about 1/3 full with water and record volume. If erlenmeyer flask, using a buret, record initial volume of water in buret, fill flask approximately 1/3 with water and record final volume of water in buret. (Make sure measurements have one more level of significance than is labeled on glassware)
6. Weigh the glassware with water on both top-loading and analytical balances and record respective masses
7. Dump water into the sink weigh the wet glassware on both top-loading and analytical balances and record their respective masses
8. Repeat steps 2-7 for each remaining piece of glassware
9. Return all glassware where it was found and wipe down the benchtop with a wet paper towel

Safety: Approved chemical splash goggles must be worn when chemicals and/or glassware are in use anywhere in the lab

Waste Disposal: water is dumped in the sink

Data and Observations

Erlenmeyer flask dry weight
- top-loading: 92.82 g
- analytical: 92.8468 g

Initial volume of water in buret: ~~12.10~~ 0.00 mL

Final volume of water in buret: 50.00 mL

Erlenmeyer flask weight with water
- top-loading: 142.46 g
- analytical: 142.5196 g

Wet Erlenmeyer flask weight after dumping water
- top-loading: 93.63 g
- analytical: 93.6548 g

Beaker dry weight
- top-loading: 67.59 g
- analytical: 67.5817 g

Volume of water in beaker: 40.0 mL

Beaker weight with water
- top-loading: 104.29 g
- analytical: 104.2629 g

Wet beaker weight after dumping water:
- top-loading: 67.79 g
- analytical: 67.8134 g

Graduated cylinder dry weight:
- top-loading: 94.89 g
- analytical: 94.9264 g

Volume of water in graduated cylinder: ~~20 mL~~ 20.00 mL

Graduated cylinder weight with water:
- top-loading: 114.01 g
- analytical: 113.9890 g

Graduated cylinder weight after dumping water:
- top-loading: 95.65 g
- analytical: 95.6580 g