161-13 General Chemistry I Lab

C. William Blewett

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Syllabus

General Chemistry I Lab
CHEM 161-13
Fall 2014
Friday 2:00 – 4:50 Logan 206

Instructor
Dr. C. William Blewett
859-341-7416 (best)
billblewett@aol.com;
blewettec@xavier.edu

Required Text/Supplies
2. Safety goggles/Safety glasses with side shields

Goals of Course/Student Learning Outcomes
1. Hands-on experience in safely and comfortably handling chemicals and using equipment. 2. Improve writing and data analysis skills by writing lab reports. 3. Have some fun!!!!

Pre-lab Preparation
Because lab time is so critical, you want to spend your time in the lab doing experiments and recording your observations. In order to accomplish this objective, you need to do setup work prior to entering the lab so that you can get started immediately.

1. Read in the lab manual the objective of the experiment to be done, the background information and the procedure to be carried out.

2. Complete the Advance Study Assignment to familiarize yourself with how to work with the data/observations you will generate during the experiment.

Lab Time
1. Safety goggles must be worn at all times while doing experiment.

2. Follow procedure and record in the lab manual in ink any data generated, any observations made and any changes in procedure. The emphasis is on “complete, not neat.” You want a faithful record of what you have done.

3. At end of experiment, sign page at end of data/calculation section and obtain witness of your signature from your partner or another student.
4. Clean area where you have been working

5. If you have finished your experiment, you are free to leave..

**Post lab**
Using the data and observations generated, complete the data sheet in the laboratory manual, do any calculations required, and generate graphs if needed.

**Lab Report**
A lab report is due one week after completion of an experiment. The report may be handwritten in ink (not pencil) if your writing is legible. Each report is worth 100 points and consists of the following parts:

1. Cover page, with name, title of the experiment and a one-paragraph summary of the experiment. The summary should consist of three parts: the purpose of the experiment, what you did, and your specific results. You are writing it for someone who knows chemistry but not the specific experiment you did. The summary must be your own individual one – no plagiarism of your partner’s summary. (15 points)

2. The filled-out Advance Study Assignment. (20 points)

3. Lab data/observations. (40 points)

4. Calculation, graphs, etc., carried out with the lab data. Calculations should be shown at the end of the pages of the data/calculation section. (25 points)

**Typical Summary**
The purpose of this lab was to determine the densities of an unknown liquid and an unknown solid metal. The volume of a filled flask was determined from the mass of water required to fill it and the known density of water at its specific temperature. From this volume and the mass of the unknown liquid required to fill the flask, the density of the unknown liquid was calculated. The density of the metal was then determined by filling the flask partially with metal and then completing the filling with water. Measuring the mass of the metal and the mass/volume of the water allowed the volume of the metal to be determined, and the density of the metal could then be calculated. The density of the unknown liquid, #10, was found to be 0.7752 g/ml. The density of the metal, #086, was found to be 7.384 g/ml.

**Makeup Labs**
Each student will be allowed to make up the experiment for two excused absences during the semester. An excused absence is one for which the student has a good reason (something beyond the student's control) for not being able to attend the regularly scheduled lab period. The student must contact me by phone or e-mail within two weekdays of the missed lab. A student who waits longer than 2 weekdays after a missed lab to request a makeup will normally not be allowed to make up the lab experiment and
will be assigned a grade of zero for that experiment. The student will be expected to verify their reason for requesting an excused absence. The lab must be made up no later than the last lab period of the week following the scheduled experiment. I will work with you to make suitable arrangements for doing the makeup.

**Grading**
The lab reports will account for 1200 points and the two exams will be worth 100 points each for a total possible score of 1400 points. The letter grade at the end of the semester is as follows:

A  1295-1400 (93-100%)  A-  1253-1295 (90-92%)
B+  1211-1253 (87-89%)  B  1155-1211 (83-86%)
B-  1113-1155 (80-82%)  C+  1071-1113 (77-79%)
C   1015-1071 (73-76%)  C-  973-1015 (70-72%)
D+  931-973 (67-69%)     D   875-931 (63-66%)
D-  833-875 (60-62%)     F   874 and below

**FALL SEMESTER SCHEDULE**

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<th>Page No/Experiment</th>
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There will be handouts for the atomic spectra and the gas laws experiments.