January 24, 2006

Dear Chem 103 Students:

Please help me by filling out this survey and turning it in at the end of class today. Your answers will be held in confidence, no one but me will see them, and your answers will have no impact on your grade. I will use these surveys to help me judge the best level at which to present material in class so that I can try to be most helpful to you. I will also be using the information in these surveys to assign balanced teams for the weekly problem solving that we will do during class. If you feel uncomfortable providing me with any information, you can leave a question blank. If you would rather talk with me in person, I am always available during office hours, or you can make an appointment with me.

Thank you.
Prof. Sevian

Name:	
Email address (please write neatly):	
How often do you check your email?	___ More than once a day ___ Once a day ___ A few times a week ___ Once a week ___ I rarely use email
Below is a problem similar to one from this semester's homework. Please tell me about your confidence level with the <u>mathematics</u> involved in solving this type of problem.	___ The mathematics here are easy for me. I feel very confident with the mathematics in these kinds of problems. ___ I can do these kinds of problems, but the mathematics are a little bit of a challenge for me. ___ I am anxious about these kinds of problems because my skills with mathematics are rusty. ___ Other (please explain):

<u>Problem</u>

You have 0.954 g of an unknown acid, H_2A, which reacts with NaOH according to the balanced equation

$$H_2A\ (aq)\ +\ 2\ NaOH\ (aq)\ \rightarrow\ Na_2A\ (aq)\ +\ 2\ H_2O\ (l)$$

If 36.04 mL of 0.509 *M* NaOH is required to titrate the acid to the equivalence point, what is the molar mass of the acid?

<u>Solution</u>

$$36.04\ mL \times \frac{1\ L}{1000\ mL} = 0.03604\ L$$

$$0.03604\ L\ \text{NaOH} \times \frac{0.509\ mol\ \text{NaOH}}{1\ L\ \text{NaOH}} = 0.01834\ mol\ \text{NaOH}$$

$$\text{Equivalence point means reaction goes to completion: } 0.01834\ mol\ \text{NaOH} \times \frac{1\ mol\ H_2A}{2\ mol\ \text{NaOH}} = 0.009172\ mol\ H_2A$$

$$Molar\ mass = \frac{0.954\ g\ H_2A}{0.009172\ mol\ H_2A} = 104\ g/mol$$

PLEASE FILL OUT OTHER SIDE ALSO ➦

Below is a problem similar to one from this semester's homework. Please tell me about your confidence level with the <u>reasoning skills</u> involved in solving this type of problem.

___ The reasoning skills here are easy for me. I feel very confident with being able to form the kinds of arguments required to explain answers for these kinds of problems.
___ I can explain answers for these kinds of problems, but setting out the sequence of reasons is a little bit of a challenge for me.
___ I am anxious about these kinds of problems because my skills with explaining reasoning are a little rusty.
___ Other (please explain):

<u>Problem</u>
Which has greater ionization energy: Ca^{2+} or Cl^-? Briefly explain your answer.

<u>Solution</u>
Ionization energy of $Cl^- < Ca^{2+}$. Ca^{2+} and Cl^- are isoelectronic (have the same number of electrons), but Ca^{2+} has a larger ionization energy than Cl^- because Ca^{2+} has more protons, so the electrons are more tightly held so it takes more energy to remove an electron.

Below is a passage from the textbook. Please tell me about your ability level with <u>English language</u> in understanding this passage.

___ The English language used here is easy for me. I feel very confident in being able to understand what I am reading in this passage.
___ I can understand what I read here, but I need to read it several times and may need to look up a word or two in the dictionary.
___ I am confused by this passage because the English language in it is difficult for me to understand.
___ Other (please explain):

When using Hess's law, it is often helpful to represent enthalpy data schematically in an energy level diagram. This is a drawing in which various substances, for example the reactants and products in a chemical reaction, are placed on an arbitrary energy scale. The energy of each substance is identified by a horizontal line, and numerical differences in energy between them are shown by the vertical arrows. If they are drawn to scale, the spacing between the substances shows the differences in their energies. Such a diagram provides an easy-to-read perspective on the magnitude and direction of energy changes and shows how energy of the substances are related. [from a freshman chemistry textbook]

Please tell me anything else you may want me to know about you in order to help me tailor the course better to meet your needs.