

Dr. Casagrande's Chemistry 1 Final Exam Info Sheet

Exam Overview: You will have 2 hours to complete the exam. It is composed of three parts:

Part 1: [50 pts] 50 multiple choice questions each worth 1 point. You must use a #2 pencil to put all answers on the scantron answer sheet. Don't spend too long on any one question!!!! Mark your test sheet and come back later!!! **Suggested Time: 40-50 minutes**

Part 2: [80 pts] 4 pages of short answer and problem solving questions. You will write your answers on the test sheets. Please write in PENCIL! **Suggested Time: 50-60 minutes**

Part 3: [20 pts] Three of five short explanation questions. Please write directly on the test sheets. **Suggested Time: 20-25 minutes.**

Your points will be totaled, divided by 150 pts and multiplied by 100 to give your final exam grade.

Calculators

You *must* bring your calculator (and you might want to have spare batteries or put in fresh batteries before you arrive). If you cannot find your calculator or if it is broken, make arrangements with a friend to borrow theirs. I might have spare calculators available, but I will probably not have spare batteries, and if you have to borrow a calculator, it will be on a first-come first-served basis.

Information Sheets

You will receive our standard information packet, plus all equations and information that you had as extra information on tests or quizzes during the semester.

Short Explanation (Essay) Questions

Each class will receive essay questions pulled from the same list. Each exam contains 5 essay questions worth 20 points: one common 8-point question and four 6-point questions, drawn from 8 possible questions, from which you will select 2. You should be prepared to answer all of the questions as you cannot know which will be on your exam. The following are shortened descriptions of the questions; you will receive more detailed instructions and information on the test. Some of the questions are based on lab questions or class readings, which would be a good place to start when studying the material.

1) [8-point mandatory question] Graphing. You will be given a data table to complete using calculations, then asked to plot the data and describe the plot in terms of dependent vs. independent variables, direct or indirect (inverse) relationship, and draw the correct best-fit line or smooth curve through the data points.

6-pt Questions (You will get 4 of these 8 and must answer two; you can answer *one more* for extra credit)

- 2) Explain how different factors affect the rate of a chemical reaction according to collision theory.
- 3) Explain the Ideal Gas Constant lab and indicate how specific experimental errors would affect the experimental value of R.
- 4) Define colligative property and describe some colligative properties. Explain these effects on the basis of the interaction between the solute and the solvent.
- 5) Describe and give examples of five different types of changes that give evidence for a chemical reaction.
- 6) Perform calculations and describe process for making solutions of specified concentrations.
- 7) Identify polar bonds/molecules and correlate molecular polarity to IMFs and physical properties.
- 8) Describe changes in energy, motion, and spacing in different ranges in a heating or cooling curve and explain the different regions.
- 9) Use Kinetic Molecular Theory to explain the behavior of ideal gases and real gases.

Study Suggestions

Review classwork and homework on a chapter-by-chapter basis. Redo problems on worksheets, quizzes and tests. Look over lab reports, especially questions about the theory behind the lab and about articles related to the lab. Check answer keys online (if you can't access them, I will be happy to provide them to you.). Make notes about questions you have and bring them up in class. Although you will not get a note card, tell your teacher(s) any additional information you think would be helpful, and if it is appropriate we will consider including it in the "Extra Information" packet.