GENERAL EXAM PROCEDURES

BRING PENCIL and CALCULATOR

Maybe even 2 pencils - with erasers. You must provide your own calculator. We do not provide calculators. We DO provide you with an exam and an answer sheet and any scratch paper necessary.

Exam is from 11AM to 12:15 PM

If you show up too late you will not be allowed to take the exam. Make sure you have all your answers BUBBLED IN by 12:15. We will give you plenty of warnings. Do NOT continue working on the exam after time is called. Bubbling ANYTHING after time is called is a violation of the exam rules. Have your UT ID Card ready to show when you turn in your exam.

GO TO THE RIGHT ROOM!!!

We must split the class into 2 sections. We do this via the first letter of your last name. Here is the split:

A-M go to WEL 2.224

N-Z go to HMA

HMA is Hogg Memorial Auditorium which is over next to the Student Union. Go to the right room and take a seat. Make sure you SKIP a seat between each student.

Bubble In Vital Information

Each bubblesheet has places for you to enter your name, your UTEID, and your version number of your exam. The first two you already know, and you'll know your version number as soon as you receive your exam. You're in college now READ the top of the exam.

Which Chapter/Sections are covered?

All of Chapter 2 plus nomenclature of ionic compounds including polyatomic ions. All the material covered on homeworks 3 and 4. Concentrate on the subject matter I emphasized in class and on the homeworks. Come in mentally prepared to answer at least 20 questions, maybe a few more. Yes, there will be calculations, but most of the exam will be the theory, concepts, and *story* from Chapter 2.

Definition of Terms

The book is full of terms. These are typically in boldface type and their definitions follow with highlighting. Know these terms. These should be easy multiple choice type questions.

Stuff you STILL need to know from Chapter 1

Major components of air. How to calculate percentages and/or ppm and ppb. Basic definitions and terms. Still know basic conversion type math problems. Know your metric prefix system and how to apply it. Still know your 3 major zones of the atmosphere. Classification of matter. Still know binary ionic and covalent nomenclature from exam 1.

Electromagnetic Radiation

Know about all the concepts we discussed. Which type of radiation is the weakest? strongest? How do wavelength and frequency relate to energy of the photon? Which region causes vibrations in matter? electronic excitations? bond cleavage? What is UV-A, B, and C? Many of these relationships are best shown in a quantitative sense which leads too...

New Calculations

$$c = \lambda\nu \qquad E = h\nu$$

Know these two equations and how to calculate wavelength or frequency. Know how to calculate the energy of 1 or more photons of a given wavelength or frequency.

Nomenclature

Add the polyatomic ions to your list of ions to know. Also know how to distinguish between different oxidation states (charges) of the transition metals, like iron(II) vs iron(III). Hint: you almost always get the charge on the transition metal by first knowing the charge on the anion. Remember, neutrally charged species MUST have all charge total to zero. I will NOT give you a hydrate name like was on one of the homework questions. Just know how to name the salt without the water.

Lewis Electron Dot/Line Formulas

You should be able to draw all types of Lewis electron dot formulas (see homework). What are valence electrons? How do you count them? Remember that we do give multiple choice questions. This means you will either pick out a structure or will be asked about a certain feature of the structure like how many lone pairs of electrons, or how many bonding electrons. What is resonance when dealing with these structures? How do we show resonance and how should you think about a structure that exhibits resonance forms?

Know the role of Ozone

Why did we talk so much about ozone? Why is it so important? How does ozone and its allotrope oxygen help us out with UV radiation? What units are used to measure the ozone concentration in the stratosphere?

How is Ozone destroyed? What is the story here?

What is the mechanism for ozone destruction in the stratosphere? What kind of data support the arguments? What's the big deal about the "hole" in the ozone layer? Where is the hole? Is it always there? How does it form? What's up with CFC's? What's Freon? CFC? HCFC? halons? Is ALL the production of CFC's controlled? Globally controlled? What are some problems here? What is the Montreal Protocol?

Again... What is the STORY?

This whole chapter is presented in a way that tries to tell you a story. A story about our current state of environmental concern over the ozone layer and its "health". You should know about the details of this story. How each player (radiation, ozone, oxygen, radicals, chlorine, CFC's, HCFC's, etc...) contributes to the overall picture of what is going on in our atmosphere. Get to know each of the "players" here and their role in the global drama that is currently still playing out. Although there are many issues at hand, the most important issue to UNDERSTANDING the complete story is the CHEMISTRY that is always at work behind the scenes.

Standard Disclaimer

Any mistakes on this review sheet are NOT intentional. You should crosscheck all stated information. You should double check your book too (see errata if necessary).