

CH 301 Random Musings September 2, 2008
(this is a really long one, the others are much shorter)

1. Why, you ask, do I spend my Monday nights writing **Random Musings**? I do it because I know how much you want to keep up with the goings on in class. So before you go asking me a question because you haven't been to class or paid attention to the Random Musings, you would do well to read them. You don't want to have me look at you after you ask your question and have me ask, "Have you read the musings?" That way we can save our conversations for questions about chemistry.



2. As you will learn, I don't care that much for adults and animals, but I do like kids, and I have a bunch of them myself, including, Andrew, shone here at 2 days of age. He has fattened up now in his third week of life. Anyway, Andrew is one of the reasons I will appear to be quite tired a lot this semester.

3. **E-mail addresses.** A gentle reminder—did you know that the University is serious about using **e-mail** as its formal means to contact you? But they have no interest in trying to figure out which e-mail you are using in any given week. Instead they look to see which e-mail address you have given the University as part of your official UT address. When I e-mail the class, my information goes to that address. This weekend I sent a lengthy e-mail to the class. About 20 addresses were kicked back to me as no longer valid. So if you aren't getting e-mail from me, check to see what the University thinks is your address and change if necessary. Here is the place to go for more information: <http://directory.utexas.edu/faq.html>.

4. **Apologies concerning the text book and iClicker.** I do apologize for the initial confusion with the Co-op, but I don't use Zumdahl and I don't use iClicker and never have. Take them back and purchase the electronic text book. Associated with the e-book is something called a ChemPortal which will permit a variety of supplemental features to improve the electronic learning environment for the class. For example, I will be able to:

- Annotate the sections of the text to indicate the appropriate material for you to read
- Create practice quizzes and problems for you to work.
- Communicate with you through e-mail, blogs and chat functions.

5. **Buy your textbook NOW.** I need to the entire class to purchase the text as soon as possible so that I can feel comfortable that I am effectively communication with you. To this point

(Tuesday morning) about 330 of you have made the purchase. Please do let me know if you are having sustained difficulties—it may be a computer or browser issue. Plan on me sending my first e-mail to the class in the ChemPortal on Wednesday night. At that point, assuming it is working, it will be the way I communicate from then on.

6. **Course notes**—on Thursday the NSC will be selling my course packet, tax free, as a one-time fundraiser for student scholarships. The 400 pages of material include my 25 typed lectures, the 14 worksheets to be done in the academic communities, and last year's quizzes and exams, all with answer keys. The cost of the course packet is \$25 (it would sell for about \$50 with tax at the copy centers so this is a good deal). If you intend to buy the notes, please have cash or a check ready after class. The NSC will conduct a quick and orderly sale and everyone should have their notes by 3:30. By the way, proceeds from selling these notes will go to 10 \$1000 scholarships for UT students to be awarded this spring.

7. **A voucher for the forgetful.** By the way, we get to sell these notes once as part of the rules for a tax free fundraiser. If you don't have your \$25 and intended to purchase the notes, come see me after class and I'll take your name and your pledge to pay us back on Thursday. You will receive a voucher to get the notes today.

8. **Mistakes Part 1, coursenotes**—I received the following e-mail over the weekend:

“On #14 of the link above, the answer key shows the work and it says we only need 1 mole of N for 1 mole of 1 mol $(\text{NH}_4)_3\text{PO}_4$... When I worked it out however, I put 3 moles of N is needed for 1 mol $(\text{NH}_4)_3\text{PO}_4$, so I was wondering if I got the answer wrong or if the answer key had a mistake.

and

“I was looking over the High School Chemistry Review questions/answers and I think there might be a mistake in EX. 9 of the Worksheet 0 Answer Key. Please let me know if I'm wrong.”

Believe it or not, professors are not infallible—I have corrected the errors pointed out to me thanks to those two students who went through the worksheets this weekend on the way to acing the course.

And now for my excuse: being a professor I am deeply flawed on many levels (which is why I never got real jobs and instead continue to hang out on college campuses until I die.) Anyway, you are about to receive 400 pages of notes and support materials that I produced, mostly in the dead of night. If you think there aren't a million mistakes, you are sadly mistaken. How could I possibly make mistakes?

- I have fat fingers and can't fit them on keyboards easily
- Even if they could fit, I don't know how to type anyway
- I have fat fingers and can't fit them on calculators easily
- I don't pay really close attention to stuff like freshman chemistry problems

And most important:

- I don't care.

And by “I don't care” I mean that I am simply incapable of checking my working—it runs contrary to my very being and has already kept me out of medical school so I am not going to change just for you. For example, do you think I read over the 6 pages of typing for these musings looking for mistakes? No.

What this means, then, is that by all means you should e-mail me with mistakes you find and I will do my best to correct them. Like I did, on-line, for the students who e-mailed me on Saturday. Keep this up and my notes may be error free by 2010.

9. **Mistakes Part 2, the course schedule**—one of you also pointed out that I was holding a quiz on Thanksgiving day, and I e-mailed back to say that she was in error because I had it on good authority (the first thing I saw on the web and the web is never wrong) that I was right. But after looking at a real calendar, I stand corrected—she was right and I have now updated my course schedule to reflect the fact that you will not be taking a quiz on Thanksgiving.

10. **Reviewing for this course.** I posted a 20 question review exam on the web as well as a 20 question worksheet 1. It is expected that you either know this material or come to know it as needed during the semester. The pages in front of the text are a good review of the material and we will be spending time in help sessions this week going over the material. Please don't panic if the material isn't fresh in your mind—as you get into the swing of the course it will come back to you.

11. **Community Learning.** I am a great believer in actually studying to do well. Many people like to study in groups or at least around a TA or professor to get help. Doing so around people who can help explain things would also be a good idea, so I provide about 20 different times to choose from each week to study in a formal environment. Because you are in college and I think you should do what you want, these sessions are optional. Come, don't come, it is up to you. But I find that setting aside a couple of these times to attend on a regular basis is a very nice idea. Here are the times available for you to choose.

12. To help you discern the different study environments:

- **Office hours** are intimate sessions that typically just a few people attend. They are held in office environments and provide a free for all for questions you have. Some times the questions stray away from strictly chemistry to other topics where you can benefit from the advice of the TA or professor.
- **Discussion sessions** are hour long problem solving sessions held in classrooms. More people come and we end to focus on completing the worksheets although you can ask questions about any part of the course material. We make sure that extra copies of the worksheets are available at the sessions.

- **Academic Communities.** Starting next week, Sunday through Wednesday evening in the Jester and Kinsolving residence hall dining areas, you can join study groups that form to study for my course. The TAs have also kindly agreed to make the rounds of these study sessions four nights a week following dinner with the peer assistants and a discussion session. Study groups for other introductory science and math courses will also form in the dining halls.

13. Office hour update—I have moved Michael’s office hour from Thursday to Wednesday so we have better coverage on the days we take exams. Here is the new list of times to get help:

Where to go for help (choose a couple of these to do every week—as of 09/02/08):

<i>day and time</i>	<i>location</i>	<i>activity</i>	<i>presider</i>
Sunday 6:00 to 6:30 pm	Jester Dining	Peer/Peer dinner with TA	Michael
Sunday 6:30 to 7:30 pm	Jester A121A	Discussion section	Michael
Sunday 7:30 to 9:30 pm	Jester dining	Academic community	Michael
Monday 2 to 3 pm	WCH 2.222 or WAG 214	Discussion section	Dr. Laude
Monday 6:30 to 7:00 pm	Kinsolving dining	Peer/Peer dinner with TA	Yuxuan
Monday 7:00 to 8:00 pm.	LLB 103	Discussion section	Yuxuan
Monday 8:00 to 10:00 pm	Kinsolving dining	Academic community	Yuxuan
Tuesday 11:30 am to 12:30 pm	WCH 2.222 or UTC 3.132	Discussion section	Dr. Laude
Tuesday 3:30 to 5 pm	BIO 301	Office hour-grading	Travis
Tuesday 6:30 to 7 pm	Kinsolving dining	Peer/Peer dinner with TA	Travis
Tuesday 7 to 8 pm	LLB 103	Discussion section	Travis
Tuesday 8 to 10 pm	Kinsolving dining	Academic community	Travis
Wednesday 11am to noon	Welch Cubicle B	Discussion section	Daniel
Wednesday 1 to 2 pm	WCH 2.222 or WCH 1.120	Discussion section	Dr. Laude
Wednesday 2 to 3 pm	Welch Cubicle B	Office hour	Michael
Wednesday 6:00 to 6:30 pm.	Jester dining	Peer/Peer dinner with TA	Daniel
Wednesday 6:30 to 7:30 pm.	Jester A218	Discussion section	Daniel
Wednesday 7:30 to 9:30 pm	Jester dining	Academic community	Daniel
Thursday 11 am to noon	Welch Cubicle B	Office hour	Yuxuan
Thursday noon to 1 pm	WCH 2.222 or BEL 328	Discussion section	Dr. Laude
Tuesday 3:30 to 5 pm	BIO 301	Office hour	Travis

14. I mentioned that I am looking for students to serve as **peer assistants** in the Academic Communities. About 90 of you indicated an interest in the 40 positions we have available. The TAs are in the process of forming these peer teaching teams and will be in touch with you about whether you have been selected. If you commit to the program, you are expected to put in one night a week for about two hours working with study groups on the worksheets. If you aren’t selected, please don’t look at this as your first failure in college—this isn’t like rushing a sorority or something. In truth you are all peer educators—the only difference is that you don’t have to eat dinner with the TAs if you aren’t chosen.

15. **Exam conflicts.** Many of you have a conflict between my Wednesday evening exams and exams or labs in other courses. In principle you are to read the header notes for a course before deciding whether it fits your schedule, but given the limited course availability for freshmen, your faculty will work hard to find alternatives. So don't worry, we will make sure you can take your exams and complete your labs.

And now we can start learning.

16. **Weekly worksheets.** The first thing you need to do is to start studying for this class. While other classes use the HW Service to generate problem sets, I prefer to give in class quizzes (people seem to have to learn a lot better that way) and instead, provide weekly worksheets. You should have received an e-mail with a link to the first worksheet this weekend. These worksheets do a thorough job of covering the concepts and the problem types that will be tested. Not only that, they suggest additional problems you might work. However they are for instructional purposes only, and are not graded. Your first graded assignment in here will be a quiz next week.

18. **Worksheets 0 and 1** have been posted. They are a review of high school chemistry concepts and will be the subject of this week's help sessions. **Worksheet 2** will be posted on Thursday. It will be the subject of next week's help sessions and will be tested on **Quiz 1**.

19. Here is the layout of **lectures, worksheets and quizzes for the first two weeks of class:**

T	9/2	Wave Particle Duality	Lecture 1	
H	9/4	Development of Quantum Mechanics	Lecture 2	Worksheet 2
T	9/9	The Origin of Atomic Orbitals	Lecture 3	
H	9/11	Electronic Configurations	Lecture 4	Quiz 1

(I should point out that Chapter 1 is the most conceptually challenging of the chapters--Chapters 2 through 5 are a walk in the park compared to it. So don't get too down if you struggle to understand the material in the first chapter. I can assure you the questions you will be asked to work on the quizzes and exam will be a lot easier than the actual text material.)

20. I love to tell people **the kinds of questions that they need to study for a quiz or exam.** So Thursday, September 11th, there will be a 40 point quiz with 8 multiple choice questions on the following topics. Problem types for the quiz:

- EMR energy order
- wave/particle duality calculation
- theory behind failure of classical physics
- deBroglie calculation
- uncertainty calculation
- boundary conditions for quantum rules
- Aufbau, Hund and Pauli
- assigning quantum numbers

21. **A few things to remember about quizzes:**

- I always tell you what the topic areas for the quizzes and exams will be.
- There are no make-ups (you get to drop your lowest two quizzes.)
- Quizzes are taken the last 20 minutes of class.
- I provide all necessary equations, conversions, constants, and periodic table. All you need to bring is a pencil and a calculator.
- I don't give quizzes to people who show up for class an hour late just to take the quiz—don't wander up asking for a scantron that was handed out at the beginning of class.
- If you need extended test taking or quiet conditions, you need to let me know.

20. **Poetry corner.** For the culturally disinclined or impaired, once a week we read a poem or two aloud in class. Would you like to volunteer a favorite? If you don't you'll be hearing a lot of angry white male poetry like this one:

I walked outside early in the morning last week and smelled death—actually, some of you (the two who were awake) probably smelled the same thing and thought it smelled like sweater weather and got all excited. But not me. I smell the first hint of crisp air and go into a prolonged funk. Then I went out and cleaned the garage because otherwise I would have curled up in a ball on the couch until spring,

Anyway, that is why I have pulled out the poem below by one of my favorite poets, Gerard Manley Hopkins. He was a reformed Anglican, living at the end of the 19th century, who became a Catholic priest and then just started hanging out writing depressing poetry to reflect the fact that he was depressed his entire life. He refused to let anyone publish his poetry. After he died, it was published to the delight of early 20th century poets whom some of you think are the really cool people, like Dylan Thomas. Hard to believe they found this man to be their inspiration—yet he gave us something really profound in the way of alliteration and sprung rhythm--he made his poetry feel like what he was describing on a really visceral level (though not so much in the example below.)

Here is one of the only fairly accessible poems he wrote, about the relationship between the seasons and death. I hate the fall, it smells like death.

Spring and Fall: To a Young Child

Márgarét, are you gríeving
Over Goldengrove unleaving?
Leáves, líke the things of man, you
With your fresh thoughts care for, can you?
Ah! !ás the heart grows older
It will come to such sights colder
By and by, nor spare a sigh
Though worlds of wanwood leafmeal lie;
And yet you wíll weep and know why.
Now no matter, child, the name:
Sórrrow's spríngs áre the same.
Nor mouth had, no nor mind, expressed
What heart heard of, ghost guessed:
It ís the blight man was born for,
It is Margaret you mourn for.

Gerard Manley Hopkins