

CH 302 Random Musings, Bottom of the Ninth

1. Sadly, the semester has come to an end. Today in class I will make ice cream for 500 people, hand out a brass penny to use as a gold coin in a pinch, review issues related to examinations and final grades, and let you fill out a form to return that will tell me things to assist with your grading.

2. Evaluations. It is your responsibility as a student to complete course instructor evaluations for every course you take. The college is participating in an effort to make these evaluations electronic and I have agreed to use this method. You should have received an electronic invitation to complete this survey, but if you haven't, you can do so by going to the following web link: <https://utdirect.utexas.edu/diia/ecis/> and opening up the survey for CH302. You have until 5/ 2/2008 (this Friday) to complete the survey. Thanks for remembering to do this.

2. Reprinted below are the grading cutoffs for the course. There are both the original cutoffs that reflect a 90%, 80%, 70% cutoff and the new cutoffs of 87%, 77%, 67%, 57% and apply IF you turn in all your extra credits. The weight of the extra credit depends on the grading scheme but corresponds to 1% of the grade for each extra credit handed in. Do not worry about which of these grading schemes applies to you. I will assign the one that best benefits you.

Letter grade	Exemption scale (700 max)		Cumulative scale (1000 max)		Final Exam scale (300 max)	
	Old cutoff	New cutoff (3 EC scores)	Old cutoff	New cutoff (3 EC scores)	Old cutoff	New cutoff (3 EC scores)
A	630	609	900	870	270	261
B			800	770	240	231
C			700	670	210	201
D			600	570	180	171

4. Extra credit points. You have had the chance to 3% back on your grade from extra credit. There will certainly be some errors in recording your extra credit what with the manual recording process so please do not panic if points are missing. I will reconcile what I have for your totals versus what you say you have done the green sheet you will turn in today. If there is a contradiction, I will e-mail you to confirm. I need these extra credits to determine exemption, so please get them in as soon as possible (in principle tomorrow at 5 pm.)

5. If you are missing QUEST scores or believe that they are in error, it is your job to fill out a regrade request. After today Travis will set up some time during dead days to contact him.

6. By Friday around midnight I will have determined whether the exemption cutoffs will be reduced below the 609 value posted above. Remember that QUEST totals DO NOT reflect my grading scheme so ignore the grades it assigns and instead simply add up your three exams and your four best quizzes. Compare that result to the appropriate cutoff above or any new cutoff value I assign.

7. At this point they still haven't fixed things so that bad questions can be tossed. I can't tell you how sad this makes me, especially since my sad varies proportionally with your sadness, which you tell me about regularly. Would it do any good if I told you they almost have it fixed? They say they do, and so I simply have to claim that it will be fixed, and you will be notified of this, in the next day or two. Regardless, it will happen in time for you to know your grading and exemption status even if I have to go through and do it by hand for all 6000 questions.

8. You have been a very fine class and the grades will reflect this. Expect to see about 160 exemptions and the final overall grade distribution:

210 As

170 Bs

80 Cs

30 Ds

10 Fs (most of whom did not complete the course).

9. Telling me what I should know. In a class of 500, it is possible I will make mistakes or that I will not find out things you want me to know. So please fill out the green form, "Things I want Dr. Laude to know", if there is anything of an academic or non academic nature that will assist me in deciding your grade. I will respond to each of these individual so take the opportunity seriously. For example, if you and I have made some kind of arrangement about make-ups, missing quizzes, incompletes, or something significant has come up this semester, please write it down and turn it in.

Things you need to know about Exam 3.

10. I provided a practice exam 3 that I posted on the web.

11. On Sunday I gave a review on the 30 question types on Exam 3 and the hand written notes from that session are posted on line under lecture notes.

12. Exam 3 will be held tonight between 7 and 9 pm. The exam will consist of 30 equally weighted questions worth a total of 180 points. I have included an updated list of question types that removes the transition metal material and replaces it famous gem and manufacturing processes.

13. I am forgoing a posting of the normal format and procedures for exam 3 and remind you that the usual exam rules apply. Your location for the exam is as follows:

Last name A-Ma, WEL 2.224.

Last name Mb-Z , W.C. Hogg 1.120 (the room under my office, not the auditorium)

14. If you have received my approval to take the exam Sunday, please come to this room, WEL 2.224, for a make-up exam from 6 till 8 pm. I continue to take make-up exam requests and if you haven't heard back, e-mail again. I am out of pocket tonight till 9 pm so unfortunately will not be able to grant the make-up explicitly until then. But I have been pretty sympathetic to most requests including work and family issues as well as other inconveniences. I do appreciate that this change of make-up procedure was forced on us at the last minute.

15. Some advice as you study for exam 3: Be aware that this test is light on calculations (only about 30% of the test) and heavy memorizing stuff, which is the nature of an exam filled with descriptive chemistry. Like it or not, those of you who really understand my notes on organic nomenclature, biomolecules, main group chemistry, catalysts and batteries, will breeze through this material and it will be a short test. It is definitely a "you know it or you don't" experience for many of these problems. And quiz 5 is definitely a barometer for much of the kinetics. Nothing should be surprising on the exam and I expect an average in the low 80s (I can dream.)

16. Exam 3 Question Types:

Question Types for Kinetics

1. assigning rate expressions
2. relating reaction order to rate
3. units of rate constants
4. method of initial rates
5. integrated rate law calculation
6. integrated rate law calculation
7. extracting information from straight line plots
8. kinetic theory—collision
- 9 kinetic theory—transition state
10. factors effecting rate
- 11 combined Arrhenius calculation
12. reaction mechanisms
13. E_a and potential energy surfaces
14. famous catalysts

Survey of Chapters 14-16 and 18, 19

15. properties and reactivity of hydrogen
16. properties and reactivity of alkali metals
17. properties and reactivity of alkali earths
18. properties and reactivity of the B family
19. properties and reactivity of the N family
20. properties and reactivity of the C family
21. properties and reactivity of the O family
22. properties and reactivity of the halogen family
23. famous gems
24. famous manufacturing processes
25. hydrocarbon nomenclature
26. organic functional group nomenclature
27. organic reactivity
28. organic polymer nomenclature and function
29. biopolymer nomenclature and function
30. biopolymer nomenclature and function

Things You Need to Know About Exemption

17. In order to be exempt from the final you must have a cumulative total that is 90% (630 points) of the 700 points derived from 3 exams and your four best quizzes. However I will allow up to 3% extra credit points from 3 extra credit chances so that technically a score as low as 609 points can be exempt (this number may go down even more—I will let you know by Friday at midnight.)

18. If you are exempt, you will receive an A for the course without taking the final.

19. There are a few special circumstances (people adding the course late or missed quizzes for nonacademic reasons) for which I will use a different scoring system. Please confirm this with me on the “Things I want Dr. Laude to know” sheet you complete today.

20. It is up to you to make sure that the totals you think you received correspond to exemption. Don't make assumptions. If it is close, or you are confused about the grading, e-mail me. Pity the fool who studies for and take the final exam when he or she was exempt (this happens to someone every year.) Don't let this be you.

Information for those taking the cumulative final exam.

21. Final Exam. The final exam is scheduled for Tuesday, May 13 from 2 till 5 pm. The exam will consist of 60 equally weighted multiple-choice questions that I have listed below. Note the minor change because there is no transition metal material on the exam. The time limit for the exam is three hours but you should not be as rushed as on regular exams. As I have mentioned before, there can be no make-up or time changes allowed. However I will allow incompletes in cases where a non-academic issue arises. Please let me know about such issues on your green sheet.

22. The final exam locations are in Welch Hall. Please go to the following rooms based on your last name:
Last name L-Z in Welch 2.224 Last name A-K in Welch 1.316

23. Lunches with Dave—review for the final exam: There can be no regular help sessions during final exam week—those classrooms are now used for final exams. However I enjoy your companionship so much that I will offer review sessions the three days before the final. During each session I will review, by question type, a subject area from the course as it relates to the final exam:

- Thursday 5/8 Welch 3.502 from noon to 1 p.m. Questions from exam 1
- Friday 5/9 Welch 3.502 from noon to 1 p.m. Questions from exam 2
- Monday 5/12 Welch 3.502 from noon to 1 p.m. Questions from exam 3

An exam is going on in this room till noon. Stand OUTSIDE the building until the exam ends. DO NOT stand in the foyer of 3.502 disrupting the exam and causing my class to lose this privilege!!!!

24. You want office hours, you get office hours. Some of you requested that I be available to answer questions in preparation for the final. I have set aside the following times in my office for you to come ask questions about the final.

- Thursday 5/8 1 to 2 pm in my office.
- Friday 5/9 1 to 2 pm in my office.
- Monday 5/12 11 am to noon and 1 to 2 pm in my office.

25. Additional grading information for those taking the final exam:

- Don't worry about which grading scheme I will use. If the final exam for everything gives you a higher score, I will use that. If the cumulative score with the final gives you a better grade, I will use that instead.
- Don't worry about cutoffs varying from grading scheme to grading scheme. Across the board, at a minimum, I am giving back at least 3% on every grade cutoff and typically for the C and D cutoffs I extend the cutoff even lower.
- I will have seen almost 100 people individually over the semester to talk about doing well on the final. Let me encourage you to do what I have suggested so you can greatly improve your grade for the course. Many of you will see a profound change in how you have been performing in this class—last fall 50 students aced the final after having Cs, Ds and Fs. This always happens, there is no reason it can't be you.

60 final exam question types

Chapter 8

1. Theory: temperature and physical equilibria
2. Theory: dissolving gases, liquids, solids
3. Theory: dissolving gases, liquids, solids
4. Ranking: miscibility of liquids
5. Problem: phase diagram navigation
6. Calculation: ΔH for heating across phases
7. Calculation: vapor pressure in binary system
8. Calculation: Clausius Clapeyron
9. Ranking: Van't Hoff and solution conc.
10. Calculation: colligative property

Chapter 9

11. Setting up K from equilibrium expression
12. Calculation: equilibrium concentrations from K
13. Problem: Reaction direction from Q and K
14. Problem: LeChatelier and reaction direction
15. Van't Hoff Equation and T vs K

Chapter 10,11

16. Temperature dependence of K_w
17. Ranking A/B strength from K values
18. Approximations of A/B equations
19. Simple A/B calculation (strong, weak, buffer)
20. Simple A/B calculation (strong, weak, buffer)

21. Identifying buffers (after neutralization)
22. Buffer neutralization calculation
23. Identifying features of a titration curve
24. Titration weak A/B with strong A/B
25. Titration weak A/B with strong A/B
26. Estimating solubility from K_{sp} values
27. Calculating molar solubility from K_{sp}
28. Common ion calculation, K_{sp}
29. Equilibrium expressions for a polyprotic acid
30. Ranking polyprotic acid species in solution
31. Polyprotic acid calculations
32. Equilibrium Calculations: polyprotic acids
33. Mass and charge balance
34. Equilibria Calculations: dilute solutions

Chapter 12

35. relating E, ΔG and K
36. balancing redox equations
37. ranking oxidizing and reducing agents
38. stoichiometry calculation from current
39. interpreting electrochemical cell diagrams
40. cell convention: electrolysis versus voltaic

41. understanding standard reduction potentials
42. calculating cell potentials (not Nernst)
43. calculating cell potentials (Nernst)
44. famous batteries

Chapter 13

45. assigning rate expressions
46. factors affecting reaction rates
47. method of initial rates
48. integrated rate law calculation
49. extracting kinetics info from straight line plots
50. kinetic theory
51. Arrhenius calculation
52. reaction mechanisms
53. E_a and potential energy surfaces
54. famous catalysts

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55. properties and reactivity of main group elements
56. properties and reactivity of main group elements
57. properties and reactivity of main group elements
58. organic nomenclature
59. organic reactivity
60. biopolymer nomenclature and function

26. And as always, a last poetry corner, this one is on teaching. Here is a thought on *Teaching* from Kahlil Gibran's *The Prophet*.

On Teaching
Kahlil Gibran

No man can reveal to you aught but that which already lies half asleep in the dawning of your knowledge.

The teacher who walks in the shadow of the temple, among his followers, gives not of his wisdom but rather of his faith and his lovingness.

If he is indeed wise he does not bid you enter the house of his wisdom, but rather leads you to the threshold of your own mind.

The astronomer may speak to you of his understanding of space, but he cannot give you his understanding.

The musician may sing to you of the rhythm which is in all space, but he cannot give you the ear which arrests the rhythm nor the voice that echoes it.

And he who is versed in the science of numbers can tell of the regions of weight and measure, but he cannot conduct you thither.

For the vision of one man lends not its wings to another man.

And even as each one of you stands alone in God's knowledge, so must each one of you be alone in his knowledge of God and in his understanding of the earth.