

CH302: Spring Break 2010 Edition

1. You know that it is time for a break when students are e-mailing to let you know you look like that guy, Professor Snape, in the Harry Potter movies. This is somewhat alarming after spending two decades being identified as looking like Nicholas Cage. Time to start taking my antioxidants.



2. Quiz 3 results were not so great—shockingly only a little over 40% at first pass. I think it was a combination of things—difficult material, a level of execution in problem solving is just so much higher than anything you have seen, quizzing on Tuesday instead of Thursday, and of course, the fact that it is already Spring Break in many of your minds. Travis killed the two questions missed by 80% of you, not because they were incorrectly programmed, and not even because they were unfair. It was just that we wanted to get the average up from 40% to 60%. Here is hoping that on the other side of spring break that studying for exam 2 begins in earnest.

3. Printed below is a first pass at the 30 question types for exam 2 which will be given April 1. This may seem like it is a month away, which it is, but one of the unusual truths of the spring semester is that on the other side thing barrel toward finals at an alarming rate. In particular, while I will have completed the presentation of water chemistry (the material for which you scored a 40% average on the last quiz) today, we will have just three lectures to learn electrochemistry (about a third of exam 2) after you return.

Exam 2: 30 question types

1. Calculating simple buffers
2. Identifying buffers (after neutralization)
3. Ranking acidity and basicity based on equilibrium constants
4. Buffer capacity
5. Buffer neutralization calculation
6. Identifying features of a titration curve
7. Titration calculation
8. Titration calculation
9. Estimating solubility from K_{sp}
10. Calculating molar solubility from K_{sp}
11. Common ion calculation
12. Selective precipitation
13. Approximations of acid base equations
14. polyprotic acid equilibria
15. polyprotic acid calculations
16. Mass and charge balance
17. Setting up complex equilibrium problems
18. Equilibrium expressions for a polyprotic acid
19. Equilibria Calculations: dilute solutions
20. Equilibrium Calculations: sulfuric acid case
21. Equilibrium Calculations: weak polyprotic acids
22. Balancing redox reactions (in acid or base)
23. Balancing redox reactions (in acid or base)
24. Ranking oxidizing and reducing strengths
25. Assigning EC cell nomenclature
26. Assigning EC cell nomenclature
27. Calculating Ecell at standard conditions
28. Relating E, ΔG and K
29. Stoichiometry calculation from current
30. Calculating cell potentials (Nernst)

4. I have promised that there will be three extra credit opportunities this semester that will permit you to lower the cut scores for grades by up to three percent (one percent for each extra credit submitted.) Here is the first one.

Extra Credit 1. To earn 1% of your course grade that you can add to your point totals for the semester, complete the assignment below and follow the specific instructions given. This EC can be used to calculate exemptions. Depending on your method of grading, 1% will be worth 7 points for exemption, 10 points for overall course grade or 3 points if the final counts for everything.

Procedure:

- Complete the assignment below.
- Write it up (probably 100 words or so, but write as much as you want to tell the story.
- Submit it to my e-mail address: **dalaude@mail.utexas.edu**
- IMPORTANT. You must title the extra credit: **EC1s10 Spring Break**
- (If you do not use this EXACT subject you will not be filtered into the file from which I assign extra credit.)
- Due Date: Tuesday, March 30 at 11:59 pm. I am going to be strict about the deadline this semester. You will receive an e-mail reminder over the break and one in the musings afterward.

Extra Credit Assignment:

During spring break I want you to teach a science-hater something interesting about chemistry that you learned in this class. To get the points, the person you teach has to say to you, “gee, I had no idea chemistry was that interesting” when you have finished (you can make them say it even if they don’t mean it.) You can choose what you teach but it should be something of interest and utility that you have learned from your experiences with chemical and physical equilibria.

5. Spring Break. For some reason Spring Break lasts a lot longer than a week, at least as far as I can tell from seeing the entire campus pretty much deserted the week prior to spring break. So on the off chance you won’t be here next Thursday for the musings, my favorite spring break story (remember this was pre-MTV and I didn’t know you shouldn’t visit your relatives) was when I went to Knoxville to see my cousins. While in a Krogers with my Aunt Ann and Cousin Martha it occurred to me that it would be fun to fill her shopping cart with as many boxes of green Jell-O as possible. So along with the rest of the groceries, I added about 100 boxes without her knowing. She is going through the check out line, and after having about half the Jell-O rung up, the cashier asks her what she is going to do with all that Jell-O, and she turns to me and says, “grow up.” Later that night (though she was dying of an incurable illness, I got her to go out for ice cream, and as we were leaving the place about midnight, I got her to run along Kinston Pike singing John Cougar Mellencamp lyrics “life goes on long after the thrill of living is gone” at the top of her lungs. You had to know my Aunt Ann--that was pretty special, it beat the heck out seeing how many people can swap bathing suits in the trunk of a Vespa.

6. Poetry corner. Some spring break poetry. There isn't much, evidently even poets decide to take the time off.

Jack & Diane *

by John "Cougar" Mellencamp

A little ditty 'bout Jack & Diane
Two American kids growing up in the heart land
Jack he's gonna be a football star
Diane's debutante in the back seat of Jacky's car

Suckin' on chili dog outside the Tastee Freez
Diane sittin' on Jacky's lap, got his hands between her knees
Jack he says, "hey Diane, let's run off behind the shady trees
Dribble off those bobby brooks, let me do what I please", saying

Oh yeah - life goes on
Long after the thrill of livin' is gone, sayin'
Oh yeah - life goes on
Long after the thrill of livin' is gone, now walk on

Jack he sits back collects his thoughts for a moment
Scratches his head and does his best James Dean
"Well now then there, Diane, we ought to run off to the city"

Spring Break by Joe Del Tufo

Me and the writers
The famous writers of bestsellers
And block buster movies
Are careening down a backroad
drunk
And listening to
Snoop Doggy Dogg
F.Scott Fitzgerald and
William Carlos Williams
Are sucking from liter bottles
And belching out bad poetry

Some undergrad named Eileen
Is driving around curves with her high beams on
and
I can't see the front of her eyes
She fidgets in her seat like a victim
William Carlos Williams is hanging out the
Window screaming
Sestinas and villanelles at the townies
Who diligently tap out our license plate number
In their pocket organizers
It is spring break and the whole world
Is lit by fireflies.

Diane says, "baby, you ain't missin' a thing", but Jack, he says

Oh yeah - life goes on
Long after the thrill of livin' is gone
Oh yeah, he says - life goes on
Long after the thrill of livin' is gone

Oh let it rock, let it roll
Let the bible belt come and save my soul
Holdin' on to sixteen as long as you can
Change is coming round real soon make us women and men

Oh yeah - life goes on
Long after the thrill of livin' is gone
Oh yeah, he says - life goes on
Long after the thrill of livin' is gone

A little ditty 'bout Jack and Diane
Two American kids doin' the best they can

*from American Fool (1982)

Spring Vacation by Cate

I sat at my desk.
It is a big mess.
I am waiting for
The bell to go brrriinnngg!

Once I got home I
Went to the indoor pool.
It was so cool
To be on spring break!

I went out of town.
We rented a boat.
To my friend I wrote.
Mailed it today.

We went to the beach.
A leach sucked my blood.
In the car there became a flood.
I fell in the lake and in a well.

When I got home
I thought that spring vacation
Was not so incredibly fun.

Ibant Obscuræ

by Thomas Edward Brown

To-night I saw three maidens on the beach,
Dark-robed descending to the sea,
So slow, so silent of all speech,
And visible to me
Only by that strange drift-light, dim, forlorn,
Of the sun's wreck and clashing surges born.

Each after other went,
And they were gathered to his breast--
It seemed to me a sacrament
Of some stern creed unblest:
As when to rocks, that cheerless girt the bay,
They bound thy holy limbs, Andromeda