CHEM 3621: Physical Chemistry 3

Prof. Michelle Knowles michelle.knowles@du.edu

Class time: 10-11:50 T/Th Online via Zoom

Zoom link for Classes can be found on Canvas

Final time: Thursday June 11 10-11:50 in SGM 323

Office Hours: Wednesday 3-4pm, also by appointment https://udenver.zoom.us/my/michelleknowles

Text: *Physical Chemistry*, 3rd ed. or 4th ed. (both Thermo and Quantum) Engel and Reid

Topic Focus: This is an applied physical chemistry course. The first half of the class focuses on spectroscopy and the second half focuses on kinetics and dynamics.

Grading:

Letter	*Percent*
A	93-100
A-	90-93
B+	88-90
B	82-88
B-	80-82
C+	77-80
C	70-77
C-	65-70
D-F	Below 65

A) **Exams:** There are 3 exams. If you miss an exam for a valid reason, the other two will be averaged. The exams are worth 70% of the total grade.

B) **In-class work/Homework:** Problem solving is a very important part of learning Physical Chemistry. We will spend most of our class time working on problem sets. This is worth 20% of your final grade and this is graded on participation, effort, not correctness. After we finish the problem set, often together, please turn it in. You can work with others outside of class. No key will be posted. It is your responsibility to attend class and watch online lectures to figure out the answers. If you cannot attend, all meetings will be recorded and posted on Canvas. Please email me if you miss class. The deadlines are very flexible and set to be 1-2 class periods later than we need.

C) **Presentation:** In the last week of class we will cover current literature on spectroscopy and chemical kinetics. We will look up papers that are interesting to you and contain material that overlaps with this course. Aim for 10-12 minutes with background and fundamental information on the methods included at ~50% of the presentation. Since this is recorded and shared on canvas, you could break up the presentation into two parts. This is worth 10% of your grade.

D) **Watch 2 webinars throughout the quarter.** Email me a brief summary (1 paragraph). I encourage you to watch with others virtually and discuss them. Here are some sources:

- The American Chemical Society: https://www.acs.org/content/acs/en/acs-webinars.html
- Lab Roots: https://www.labroots.com/tag/physical-chemistry/webinars
- Lab Roots: https://www.labroots.com/webinars
- Bruker: https://www.bruker.com/events/webinars.html

Online Learning Help for students:

- DU Office of Teaching and Learning: https://otl.du.edu/
- DU IT: https://www.du.edu/it/
- Zoom offers 24-hour technical support at http://support.zoom.us or 888-799-9666 option 2.
- Canvas has a 24-hour hotline specifically for students (1-855-712-9770).

Approximate Schedule – *Very adaptable:*

Week	Date	Topic	Reading (3rd ed/4th ed)
1	3/31	Learn to use Zoom, Syllabus, start…	
	4/2	Electronic Spectroscopy	25/Q14
2	4/7	Fluorescence Spectroscopy	
	4/9	Fluorescence Spectroscopy	
3	4/14	Fluorescence Spectroscopy	
	4/16	Nuclear Magnetic Resonance	28/Q17
4	4/21	Nuclear Magnetic Resonance	
	4/23	Nuclear Magnetic Resonance	
5	4/28	**Exam 1**	
	4/30	Searching databases for research articles	
6	5/5	Mass Transport Phenomena	34/T17
	5/7	Chemical Kinetics	35/T18
7	5/12	Chemical Kinetics	
	5/14	Chemical Kinetics	
8	5/19	Advanced Chemical Kinetics	36/T19
	5/21	Advanced Chemical Kinetics	
9	5/26	**Exam 2**	
	5/28	Discuss presentation format, technical issues of recording	
10	6/2	Current topics in spectroscopy – watch the videos of others independently, No Zoom meeting!	Recorded presentations due
	6/4	Final Review Session	Worksheet due on others' presentations
Final	6/11	**Cumulative Final Exam**	

Disability Services: Any student who feels s/he may need an accommodation based on the impact of a disability or medical condition should contact the Disability Services Program to coordinate reasonable accommodations. This should be done IN ADVANCE of exams. Information is also on line at http://www.du.edu/disability/dsp

Religious Accommodations Policy: University policy grants students excused absences from class or other organized activities or observance of religious holy days, unless the accommodation would create an undue hardship. Faculty are asked to be responsive to requests when students contact them IN ADVANCE to request such an excused absence. Students are responsible for completing assignments given during their absence, but should be given an opportunity to make up work missed because of religious observance.