

## CHEM 3621: Physical Chemistry 3

Prof. Michelle Knowles [michelle.knowles@du.edu](mailto:michelle.knowles@du.edu)

*Class time:* 10-11:50 T/Th in Olin 103

*Final time:* Tuesday June 5 10-11:50 in Olin 103

*Office Hours:* 12-1 T/Th or by appointment in SGM 101

**Text:** *Physical Chemistry*, 3<sup>rd</sup> ed. 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:**

- A) Exams:** There are 3 exams. If you miss an exam for a valid reason, the other two will be averaged. The first two exams are worth 25% of your grade and the final is worth 30%
- B) In-class work:** 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 10% of your final grade and this is graded on in-class participation, not correctness. No key will be posted. It is your responsibility to attend class to figure out the answers.
- C) Presentation:** In the last two weeks of class we will cover current literature on spectroscopy and chemical kinetics. I will post papers on Canvas to select from and presentations should last 18- 20 minutes with some background and fundamental information on the methods included. This is worth 10% of your grade.

### **Approximate Schedule:**

Week	Date	Topic	Reading
1	3/27	Electronic Spectroscopy	25
	3/29	Fluorescence Spectroscopy	
2	4/3	Fluorescence Spectroscopy	
	4/5	Fluorescence Correlation Spectroscopy	On Canvas
3	4/10	Nuclear Magnetic Resonance	28
	4/12	Nuclear Magnetic Resonance	
4	4/17	<b>Exam 1</b>	
	4/19	Mass Transport Phenomena	34
5	4/24	Chemical Kinetics	35
	4/26	Chemical Kinetics	
6	5/1	Chemical Kinetics	
	5/3	Advanced Chemical Kinetics	36
7	5/8	Advanced Chemical Kinetics	
	5/10	Advanced Chemical Kinetics	
8	5/15	<b>Exam 2</b>	
	5/17	Current topics in spectroscopy - 3 talks	Papers On Canvas
9	5/22	Current topics in spectroscopy - 4 talks	
	5/24	Current topics in spectroscopy - 3 talks	
10	5/31	Guest Speaker on Single Molecule FRET Review session, Course Evals	
	6/5	<b>Cumulative Final Exam</b>	

**Powerpoint slides:** These will be posted as pdfs after class.

**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. They are located on the 4th floor of Ruffatto Hall; 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.