Fall 9-1-2020

CHMY 373.B01: Physical Chemistry 1 - Thermodynamics and Kinetics

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Chemistry 373 Physical Chemistry I: Thermodynamics and Kinetics

Autumn 2020

The University of Montana

(Dated: August 19, 2020)

Instructor	Prof. Xi Chu
Lecture notes, HW, & resource	http://tccl.chem.umt.edu/chmy373/
Zoom lecture	Meeting ID: 965 5875 7399
	Passcode: 102497
	(Please do not share with unregistered students.)
Email	xi.chu@mso.umt.edu
Class meeting	MWF 12:00 pm-12:50 pm Chemistry 102
Quizzes/recitation	Thursday 2:00-2:50 via Zoom,
	except for occasional lectures at this time
Exams	Thursday 2:00-3:50 Chemistry 102
Office hours	Zoom time will be arranged on individual basis by appointment.
Textbook	Physical Chemistry, third edition, by Engel and Reid.

Note: Please wear a mask to attend the in-person class. The third edition of the text book is preferred, because the page and problem numbers in the homework assignment will be according to this edition. If you get other editions for some reason, it may work, although you will have to make extra effort to compare the examples and problems with the third edition.

Course description

Chemistry 373, thermodynamics and kinetics, is the first semester of a two-semester series in physical chemistry. Students are expected to learn the basic principles and methodologies of equilibrium thermodynamics and kinetics, which are necessary for studies and employment in chemistry.

Learning outcomes

The following topics are covered in this course:

1. Four basic laws of thermodynamics
2. Basic thermochemistry
3. Phase equilibrium
4. Elementary reaction kinetics
5. Rate law
6. Boltzmann distribution

You are expected to be familiar with the basic principles of all topics listed above upon successfully finishing the class.

Course structure

I will lecture during MWF classes. You have the choice of attending in person or via Zoom.

Thursdays are for quizzes, exams, discussions of homework problems, and occasional lecturing. We have 10 quizzes scheduled for the semester.

Homework

Every week you will be assigned 5 to 10 exercises, which are posted on the class website and will not be graded.

Quizzes

The quizzes will be posted at 2:00 pm on Thursdays. Please email your answers back to me by 3:00 pm. You do not need to copy the questions in your email, nor is scanning or copying necessary, but please clearly mark the question you are answering, e.g. 4I., 4III .... You are allowed to use books, notes, and online resources, but discussion with others is prohibited.

Exams

In addition to the final, there will be oen or two hour-long exams. Dates are to be arranged according to progress. Please be familiar with the University of Montana student conduct code that will govern behavior in Chemistry 373.

Grading

Your course grade will be based on the total points of the exams and quizzes:

Hour exams	200
Final exam	200
Quizzes 20 pts each	100
Total	500

Note that out of the ten quizzes, five of your best scored ones will be counted towards the total.

In addition, there will be 6 unannounced pop quizzes throughout the semester. Only those who turns in all of them will have 6 bonus points added to their grades.

Policy on attendance

Attendance is crucial to the success of this class. It will be checked by 6 unannounced pop quizzes. Those with full attendance will be awarded extra credits.

Important dates

Important dates and deadlines for autumn semester 2016 can be found at
http://www.umt.edu/registrar/PDF/OfficialDatesandDeadlinesfall2016.pdf

Policy for accommodating disabilities

This course is accessible to and usable by otherwise qualified students with disabilities. To request reasonable program modifications, please consult with the instructor. Disability

Services for Students will assist the instructor and student in the modification process. For more information, visit the Disability Services website at http://www.umt.edu/dss/.

Policy on academic honesty

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the academic honesty states, which are available on line at

http://www.business.umt.edu/ethics/academic-honesty.php