PHYSICAL CHEMISTRY I

CHEM 3423  SEC 002  FALL SEMESTER 2013

Objective: Introduction to the fundamentals of thermodynamics and chemical kinetics.
Lectures: **TR 1:30 – 2:45 pm**, Nielsen Hall 0170
Instructor: Dr. Ulrich H.E. Hansmann
Stephenson Life Sciences Research Center 3040
Office Telephone: 325-2386
Office Hours: **TR 3:30 – 5:00 pm**
Online Course Management: [http://learn.ou.edu](http://learn.ou.edu)


**Lecture Schedule:**
Chapter 1: The Nature of Physical Chemistry and the Kinetic Theory of Gases.
   Aug. 20,22,27 (quiz), 29, Sept. 3 (quiz), 5
Chapter 2: The First Law of Thermodynamics.
   Sept. 10 (quiz), 12,17 (quiz), 19
Chapter 3: The Second and Third Laws of Thermodynamics.
   Sept. 24 (quiz), 26, Oct. 1 (quiz), 3

**Exam 1:** **Chapter 1 – 3 (October 3, Thursday, 7-8.15 pm; PHSC108)**
Chapter 4: Chemical Equilibrium.
   Oct. 8 10 (no class?), 15 (quiz),17
Chapter 5: Phases
   Oct. 22 (quiz)
Chapter 6: Phase Equilibrium.
   Oct. 24, 29 (quiz), 31

**Exam 2:** **Chapter 4, 5, 6 (October 31, Thursday, 7-8.15 pm; PHSC108)**
Chapter 9: Chemical kinetics I.
   Nov. 5, 7, 12 (quiz), 14
Chapter 10: Chemical kinetics II.
   Nov. 19 (quiz), 21, 26 (no class?), Dec. 3 (quiz), 5 (review)

**Final:** **Chapter 1, 2, 3, 4, 5, 6, 9, 10 (Dec. 11 Wednesday, 1:30 – 3:30 pm; Nielsen 170)**
Course Grading Scheme:

1. **Homework Assignments (0%)**: Problem sets will be assigned weekly. It is essential that you work all of these problems and understand the course material at a satisfactory level. The problems encountered in the homework assignments will be of comparable or less difficulty as the problems encountered in the quizzes and examinations. On occasion, a problem from homework assignments may be used in quizzes and examinations with minor numerical changes.

2. **Quiz (30%)**: A 10-minute quiz will be given on most Tuesdays at the beginning of the class. **NO MAKE-UP QUIZ WILL BE GIVEN**. Unless instructed otherwise, you are only allowed to use the information provided on the quiz paper. You must bring your own calculator. Only the top **TEN** quizzes will be used to compute the final score, with each quiz contributing 3% to the final score.

3. **Examinations (40%)**: Two midterm examinations of 75 min length will be given. Each examination will contribute 20% to the final score. **NO MAKE-UP EXAMINATIONS WILL BE GIVEN**. **SO MARK YOUR CALENDAR!** You are only allowed to use the information provided on the examination paper. You must bring your own calculator.

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<th>Date</th>
<th>Chapters</th>
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<tr>
<td>October 3</td>
<td>1, 2, 3</td>
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<td>October 31</td>
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4. **Final Exam (30%)**: The final examination will be given on **Wednesday, Dec. 11, 1:30 – 3:30 pm**. It will be a comprehensive **two-hour** examination covering all of the course materials. **NO MAKE-UP FINAL EXAMINATION WILL BE GIVEN**. You are only allowed to use the information provided on the examination paper. You must bring your own calculator.

5. **Final Grade**: The final grade will be roughly **CURVED** at 14% A, 36% B, 42% C, and 8% D or below. Another grading system a student can refer to is the **GUARANTEE** system. In this system, the minimum final score for a **GUARANTEE** ‘A’ is 90%; ‘B’ is 72%; and ‘C’ is 60%. The minimum final score to **CONTEND** for an ‘A’ is 83%, ‘B’ is 65%, and ‘C’ is 50 %. A final grade of ‘F’ will be automatically assigned if the final score is less than 40%.

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6. **Grading Errors**: All grading mistakes have to be resolved within one week after the quizzes or examinations are returned to the students. Grading mistakes found in the final examination have to be resolved immediately with the instructor.

_Solutions to all examinations will be posted on the web within a week after they are graded._
**Accommodation Policy:** Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me as soon as possible so that we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities. The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the instructor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.

**Codes and Policies of Behavior Policy:** Each student should acquaint his or her self with the University codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap. Students engaging in academic misconduct (including cheating, plagiarism, and any other action that may improperly affect evaluation) will be subject to sanctions in accordance with the Norman Campus Academic Misconduct Code. Dr. Hansmann routinely recommends "F" for the course and expulsion from the University for all such violations.

**Holidays:** It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required classwork that may fall on religious holidays. Students who plan to observe a religious holiday should notify Dr. Hansmann as soon as possible in order to make appropriate arrangements for classwork or rescheduling of examinations.

**Disclaimer:** I reserve the right to change by addition and/or subtraction any and/or all materials contained in this syllabus. This includes, but is not limited to, course content, assignments, scheduled dates, and fraction(s) of the final grade assigned to individual items within the course. Although your attendance at the lecture is not required, you are responsible for any announcements made in class, including changes in the quiz and examination schedule, course content, assignments, scheduled dates, and fraction(s) of the grade assigned to individual items within the course. If changes become necessary, I will announce them as early as possible.

*Last update: July 16, 2013*