

Chemistry 830, Section 001
Fall 2009
Hunter, Rm.158, MWF 1:25-2:15
Instructor : Professor Arkady L.Kholodenko
Rm. 375 (or 373) Hunter Labs
Tel. 656-5016, e-mail: string@clemsun.edu

Summary of goals and objectives

1. Basic notions of thermodynamics:
 - a) Notion of the thermodynamic state and the equation of state;
 - b) Energy conservation and the first law of thermodynamics;
 - c) The concept of order (disorder) and the second law of thermodynamics;
 - d) Thermodynamic potentials and Maxwell relations;
 - e) Phase equilibria and phase diagrams ;
 - f) Electrolytes and electrochemistry.
2. Physical kinetics:
 - a) Maxwell's distribution;
 - b) Diffusion, viscosity, heat and electrical conduction.
3. Chemical kinetics:
 - a) Rate of reactions;
 - b) Steady-state approximation;
 - c) Role of quantum mechanics in kinetic processes and transition state theory;
 - d) Diffusion and activation controlled reactions.
4. Some basic notions of catalysis.

Requirements and grading policy for CH 830

The textbook: Any physical chemistry textbook which you happen to have can be used since all of them are talking about the same thing. Nevertheless, to make things easier for some people I would recommend “Physical Chemistry” by Alberty and Silbey (I have 3rd edition but you might be able to find more recent ones) published by John Wiley & Sons, Inc. (ISBN 0-471-10428-0).

Grading: There will be as many homeworks as needed in order to cover the whole material. That is to say, there will be surely no less than 4 homeworks but it could be that we shall have up to 8 homeworks. The number of homeworks will strongly depend upon the class composition and overall class performance. This feature is absent in undergraduate classes but is essential for quality education at the graduate level.

The grading scale will be as usual:

A:	90-100 %
B:	75-89%
C:	55-74%
D:	35-54%
F:	below 35%

Depending upon class performance, we may have 1 or 2 in class quizzes. By performance I mean not only correct answers to the assigned problems but the absence of many carbon copies of the assigned solutions submitted for grading. The more I will have such carbon copies, the more we shall need to have quizzes in class. The choice is yours....

The combined grade is the sum of homework grades + those earned in quizzes. Again, depending upon class performance, the quizzes will contribute either 75 or 50 % to the total grade (75 in the case of 2 quizzes and 50 in the case of one quiz).

Class attendance policy : according to rules and regulations of Clemson University all students must attend the classes into which they are currently enrolled. They are expected to be in class on time. In case if occasionally students are required to miss a class they have to inform the instructor in advance by providing him with legitimate documentation. Students absent under legitimate circumstance are expected to do some make up work under instructor's guidance.

Instructor's attendance policy: The Instructor is expected to come to class on time. that is within a margin of 2-5 minutes with respect to the assigned timing for class.

In case if for whatever objective reasons he cannot come on time to class, students will be notified by the departmental secretary about this in advance

Disability access. It is University policy to provide, on flexible and individualized basis, reasonable accommodations to students with disabilities. Students with disabilities are encouraged to contact Student Disability Services to discuss their individual needs.

Academic Integrity Students must read the statement on Academic Integrity as it is stated in the Graduate Announcements prior to enrolling into class. They and the Instructor must adhere to the principles of Academic Integrity so that lying, cheating; stealing in any form is not tolerated.