CHEM 252 - PHYSICAL CHEMISTRY I
WINTER TERM, 2006

Instructor: Dr. L. Penn
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(215) 895-2638
Office Hours: Frequent Sundays, noon- 6 PM

A. COURSE DESCRIPTION: Thermochemistry; covers gas properties, gas laws, equations of state, first, second and third laws of thermodynamics, energy and entropy, phase stability and phase transitions, phase diagrams. Credits: 3.00

B. PREREQUISITES: MATH 200 and either CHEM 102 or (CHEM 162 and CHEM 164) or TDEC 121


D. CLASS MEETINGS: M, W, F from 12:00 P.M. (noon) to 12:50 P.M. in 135 Lebow.

E. LEARNER OBJECTIVES: Upon completion of this course the student should be able to:

1. Accurately predict behavior of both ideal (perfect) and non-ideal gases.
2. Understand the thermal energy (heat) input or output associated with specific chemical reactions and transformations.
3. Understand the difference between process variables and state variables.
4. Compute values for changes in several state variables, such as internal energy, enthalpy, Helmholtz free energy, Gibbs free energy, and entropy.
5. Use thermodynamic data to determine whether a physical or chemical change is spontaneous.
6. Use unary phase diagrams to identify conditions under which the physical state of a material will change.
7. Show computational work clearly and completely.
8. Estimate values of complex computations within a factor of two.

F. COMPOSITION OF THE GRADE
Each of three exams during the term will count 20% of your grade (Wed. Jan. 31, Mon. Feb. 19, and Wed. March 7) Exam dates are subject to change; any changes will be announced in class.
The final exam will count 30% of your grade, it will be cumulative. (Scheduled as per university final exam schedule).

Homework will count 10% of your grade.

Computation of the final grade will be according to the following numerical scores:
90.00-92.99, 93.00-97.99, 98.00-100 are A-, A, A+, respectively.
80.00-82.99, 83.00-86.99, 87.00-89.99 are B-, B, B+, respectively.
70.00-72.99, 73.00-76.99, 77.00-79.99 are C-, C, C+, respectively.
60.00-62.99, 63.00-66.99, 67.00-69.99 are F, D, D+, respectively.
The contribution of the resulting letter grade to your GPA is described on the Provost’s website under policies/academic standing.

G. POLICIES REGARDING EXAMS, HOMEWORK, AND ATTENDANCE

Calculators are not permitted during exams.
Exams are mandatory. In case of a truly valid excuse (death of immediate family member, subpoena, traffic accident) proof will be required. Any make-up exams will necessarily be more difficult due to the longer time available to study. No one is permitted more than one make-up exam; a zero will be given for the second missed exam.

Homework assignments will be given in class and are due just before the start of class at the next class meeting. Homework handed in late will be given a zero.

Attendance will not be taken. If you miss a class for any reason, it is your responsibility to get the homework assignments, hand-outs and notes from another student. The instructor has only enough handouts for those enrolled in class and destroys all hand-outs not picked up in class; if you anticipate missing a class, arrange to have a classmate pick-up your hand-outs (if any).

H. ACADEMIC HONESTY POLICY
Drexel University is committed to a learning environment that embraces academic honesty. In order to protect members of our community from results of dishonest conduct, the University has adopted policies to deal with cases of academic dishonesty. Please read, understand, and follow the “Academic Honesty Policy” as written in the official student handbook. Instances of academic dishonesty, such as cheating and plagiarism will be dealt with appropriately.