Phys530 grading policy and syllabus
Statistical Mechanics (3-0-3)
Fall 2006

Instructor: Abdulaziz Aljalal

Course Description
The statistical basis of thermodynamics, element of ensemble theory, the canonical and grand canonical ensembles, quantum statistics, application to simple gases, Bose and Fermi systems, imperfect gases, phase transitions, and Ising model

Text book
Statistical Mechanics by R. K. Pathria

References
K. Hung, "Statistical Mechanics", 2nd Ed., Wiley,1987.
F. Reif, "Fundamentals of Statistical and Thermal Physics", McGraw-Hill, 1965.
C. Kittel and H. Kroemer, "Thermal Physics", 2nd Ed. W.H. Freeman and Company, 1980.

Grading policies
      25% homework
      15% project / term paper
      20% first major
      20% second major
      20% final

Homework policy
      A homework set is generally due one week from assignment. You may submit it after the due date but 5% of the grade will be deducted for every day after the due date.

Term paper policy
      You are encouraged to find a suitable topic as soon as possible. Your work is expected to evolve over the course of the term. I would like to see your progress periodically. The project is due one week before the end of classes. You may submit it late but there will be a plenty of 5% for every day after the dead line.

Exams policies
      Exams will be closed book. Useful formula will be provided.

Topics covered

We plan to cover the following chapters
Ch 1   The statistical basis of thermodynamics
Ch 2   Element of ensemble theory
Ch 3   The canonical and ensembles
Ch 4   The grand canonical ensembles
Ch 5   Formulation of quantum statistics
Ch 6   The theory of simple gases
Ch 7   The ideal Bose Systems – only sections 1 and 2
Ch 8   Ideal Fermi systems – only sections 1, 2, and 3