Study Guide for Exam #1

1. Essay question (It has to be completed in class *without use* of any reference materials).

The answer for essay question should contain a brief statement of the problem, discussion of the solution supported by appropriate equations and brief discussion of special cases (where appropriate).

The possible topics for essay question are the following:

1) The random walk problem for large total number of steps. Transition from Binomial to Gaussian distribution.


3) Classical and Statistical Thermodynamics criteria for equilibrium in different ensembles. Consider example of one ensemble in details.

Take Home Problems (any reference material can be used)

2. Random walk problem. See examples from HW 1.

3. The ensemble method in statistical thermodynamics. See problems #4, #5 from HW2 and problems #1, #4 from HW3.