NOTES FOR THE SECOND HOUR EXAM

The second hour exam will be given in the classroom on T, Nov. 20. You will have the full 75 minutes for the exam. As on the first exam (and as will be the case on the final) calculators will not be allowed. The exam will be closed book, closed note, but I will provide a list of all the equations/results/formulae you will need to solve any of the problems.

The test will cover all of Chs 3 and 6, and those sections of Chapters 4 and 5 that were done in class, assigned for reading, or used for homework. So, for instance, questions on the efficiency of certain types of engines (like the Stirling, Otto), may appear on the test since we did those for homework while not explicitly covering section 4.3 in class. Since the thermodynamic identity is one of the most important concepts of this part of the course, I may also ask you to use the thermodynamic identity to derive additional Maxwell's relations.

The test will also cover the new mathematical tools you have learned (finding Gaussian integrals and determining definite integrals by differentiation with respect to a parameter). The test will focus on deriving relationships using the methods we have studied, so for instance, I might ask you to determine the expression for U (T) for a system by a) finding expressions for the number of accessible states and from that its entropy and then U (T), and/or b) by determining the partition function for the system and using that formulation to determine its thermodynamic properties.