

Physics 413: Statistical Mechanics – Spring Semester 2010

- Instructor:** Thomas Vojta, office: 119 Physics, phone: 341-4793, email: vojtat@mst.edu
- Home page:** http://www.mst.edu/~vojtat/class_413/class_413.html
- Class time:** 9:00 to 9:50am MWF, Room: 112 Electrical Engineering building
- Prerequisites:** Thermal Physics (Phys 311), Introduction to Quantum Mechanics (Phys 361)
- Text:** David Chandler, *Introduction to Modern Statistical Mechanics* (Oxford, 1987)
The course will not always follow this book. Class attendance is crucial.
- Further reading:** K. Huang, *Statistical Mechanics*
L. D. Landau and E. M. Lifshitz, *Statistical Physics I*
M. Plischke and B. Bergersen, *Equilibrium Statistical Physics*
L. E. Reichl, *A Modern Course in Statistical Physics*
R. K. Pathria, *Statistical Mechanics*
- Homework:** Homework assignments will be given in class on Friday and also posted on the WWW. Assignments are due in class the following Friday. Solutions will be posted on Monday. Each assignment will be worth 40 points. A total of 400 points may be earned from the homework although more than 400 points will be assigned. This allows you to miss one or two problems without penalty.

Discussions among colleagues is allowed and encouraged. However, the solutions you hand in should represent your effort and thinking and not that of a group. You should document the intermediate steps of your solution (partial credit will be given) and list any reference material which you directly use.
- Project:** In addition to the homework you will work on one larger project in the second half of the semester. You will be able to choose from several topics (computer simulations, in-class talks). The project will be worth 100 points.
- Tests:** There will be a midsemester test counting 250 points and a comprehensive final exam also counting 250 points. The midsemester test will be given on Friday, March 5 (time tba), and the final exam will be on Tuesday, May 11 at 4:00 to 6:00pm.
- Grade:** Course grade will be based on the total number of points earned on the homework, test and exam, expressed as a percentage of the total number of points available (1000). The relation between performance and grade will be the standard one: $A \geq 90\% > B \geq 80\% > C \geq 70\%$. The boundaries between the grades may be revised downwards (i.e., to the students benefit) depending upon the judgement of the instructor, but will not be revised upwards.
- Disability support service:** If you have a documented disability and will need accommodations in this course, I strongly encourage you to meet with me early in the semester. You will need to request that the Disability Services staff (dss@mst.edu) send me a letter verifying your disability and specifying the accommodation you will need before I can arrange it.

Academic Dishonesty: You should behave as responsible scholars and scientists. Academic dishonesty such as plagiarism, cheating, or sabotage is unethical and unacceptable and will be dealt with accordingly. For more detail see p. 30 of Student Academic Regulations 2008-2010 available at <http://registrar.mst.edu/academicregs/index.html>

Complaints: should be directed to Dr. Waddill (102 Physics, waddill@mst.edu)