

Atomic-Scale Simulations (MSE 485/ Phy 466 / CSE 485)

1. Name _____ Email _____
2. Status: grad, undergrad, _____ Audit or credit?____ Department _____
PhD Thesis or research topic (if grad): _____

3. Do you plan to enroll in the CSE program?
4. At the minimum we expect knowledge of classical mechanics, some thermodynamic or statistical mechanics concepts, and basic computer skills. What background do you have in the following areas:
Introductory Physics _____

Statistical Mechanics or thermodynamics _____

Programming (Languages?) _____

Simulations (e.g. Monte Carlo or Molecular Dynamics) _____
5. Do you need a short remedial session on UNIX, graphics or FORTRAN?
6. Do you have sufficient access to computers to do homework and the class project?
All students can have access to the Engineering workstations. See EWS and website.
7. All handouts will be on the Web. You should have no problem doing this, and there is help on the class website. Will you have a problem downloading material from the WEB?
8. Are there methods (e.g. for Quantum systems, phase transitions) or particular physical systems (e. g. lattice models, polymers) that you would like to hear more about? Why?
9. At present we consider these *topics*: statistical errors, statistical mechanics, molecular dynamics (Verlet, constraints, potentials), Monte Carlo (potentials, Brownian, Smart, Polymers), correlations (static and dynamic), long-range potentials (Ewald sums), probability tools (RNG, sampling, etc.), lattice Monte Carlo (Ising, finite-sized scaling), free-energy methods, optimization (simulated annealing, genetic algorithms), kinetic Monte Carlo. **Which topics/subtopics are you the least interested in**, with the thought of eliminating some topics in favor of others?
10. Is it possible for you to attend only two days but extend by 30 minutes? (circle choices)
a. T and Th: 4 to 5:30? b. W and F: 2:30 -4? c. W and F: 3-4:30? d. M and W: 2:30-4?