PHYS-4200 Tentative Syllabus

Date and day		Assign-ment	Lecture topics
1/4	W		Introduction, probability, random walks (Ch. 1)
1/6	F		Binomial, Gaussian, Poisson distributions
1/9	M		More probability distributions, microstates, macrostates
1/11	W	HW1	Phase space, equal a priori probabilities (Ch. 2)
1/13	F		Liouville's theorem, density of states
1/16	M		NO CLASS
1/18	W	HW2	Thermal and mechanical interactions and heat and work
1/20	F		Reversibility and equilibrium (Ch. 3)
1/23	M		Entropy, Temperature, thermodynamics
1/25	W	HW3	Work, energy, heat (Ch. 4)
1/27	F		Temperature
1/30	M		Heat capacity, specific heat, entropy
2/1	W	HW4	Review
2/3	F		Exam (Chapters 1-4)
2/6	M		Ideal gases (Ch. 5)
2/8	W	HW5	Maxwell relations
2/10	F		Free expansion, heat engines
2/13	M		Canonical distribution, Boltzmann distribution (Ch. 6)
2/15	W	HW6	Grand canonical distribution, chemical potential
2/17	F		Partition functions, equipartition theorem (Ch. 7)
2/20	M		NO CLASS
2/22	W	HW7	Magnetism, kinetic theory of gases
2/24	F		Phase transitions (Ch. 8)
2/27	M		Chemical equilibrium
3/1	W	HW8	Review
3/3	F		Exam (Chapters 5-8)
3/6	M		Quantum stat. mech.
3/8	W		Non-equilibrium stat. mech.
3/10	F		project presentations
3/13	M		project presentations
3/17	F	project due	