

DATE	TOPICS	
Jan. 24	Intro, books, scales P1.1 Micro&Macro	S1
Jan. 29	ThermoLaws:0,1,2 WorkTerm dW	K1.1-4, C1
Jan. 31	P1StatMech&Thermo;IsothermallisobaricAdiabatic; Entropy	K1.5-10, S5.1
Feb. 5	P1 Classical ideal gas; entropy of mixing	K4.4-5, S5.2-3
Feb. 7	P2 Ensembles, phase space microcanonical	S4, C3.1-2
Feb. 12	P3 Canonical ensemble, heat bath & equilib, Z	K4.6-7, S6.1-2, C3.3-4
Feb. 14	P3 Classical systems, energy fluctuations	C3.6-7
Feb. 19	P3 Equipartition & virial thms	
Feb. 21	Characteristic functions, cumulants	K2.2-3
Feb. 26	P3 Magnetic systems	
Feb. 28	P4 Grand canonical ensemble; density & energy fluct'ns	K4.9,S6.3
Mar. 5	P4 Phase boundaries; Clausius-Clapeyron; quantum stat	
Mar. 7	P5 Quantum ensembles, density matrix,simple examples	S7.1-3
Mar. 12	<i>MIDTERM EXAM</i>	
Mar. 14	P5 Quantum ensembles, density matrix,simple examples	S7.1-3
Mar. 19/21	<i>SPRING BREAK</i>	
Mar. 26	P6 Ideal gases, monatomic	S6.7
Mar. 28	P6 Diatomic gases	K6.1,S6.6, C4.9,S7.6
Apr. 2	P7.3Blackbody radiation, Einstein model	K6.2-3,C4.1-3
Apr. 4	P7.4 Debye model	
Apr. 9	P7.1,.2 Ideal Bose systems, finite μ ,	K7.6,B ² -22.8
Apr. 11	P7 Superfluids, BEC of trapped atoms	
Apr. 16	P8 ideal Fermi gas; Sommerfeld expansion & uses	K7.5, S7.7, C4.5
Apr. 18	P8 Electron gas in metal, Cv, magnetic behavior	S7.6.3
Apr. 23	P12 Phase transitions, condensation, lattice gas	K5.3-5, K5.7, S11.1-3, C5.2-4
Apr. 25	P12 Ising model, approx, transfer matrix, expo	S8.1, C5.1
Apr. 30	P12 Scaling, correlations	S12.1-2
May 2	P12 Ginzburg criterion, Landau thry of phase transitions	K5.8 C6
May 7	P10 Cluster expansion, virial expansion&coef	
May 9	P16.2-3 Monte Carlo, Mol Dynam; Odds & ends, review	
May 13	<i>FINAL EXAM</i> 8:00-10:00	
		K5.1-2
	More on Landau thry; P13.2 Transfer matrix	
	P6 Chem. equilib	K6.3, S7.6, C4.10,W3
SUMMER	P15.2-3 Brownian motion, Langevin	C8.8
READING	P15.4,6 FK, Fluct'n-dissip	S10.8, C8.5