SES #	TOPICS	KEY DATES
1	State of a system, 0^{th} law, equation of state	
2	Work, heat, first law	
3	Internal energy, expansion work	
4	Enthalpy	
5	Adiabatic changes	Problem set 1 due
6	Thermochemistry	
7	Calorimetry	
8	Second law	Problem set 2 due
9	Entropy and the Clausius inequality	
10	Entropy and irreversibility	
11	Fundamental equation, absolute S, third law	Problem set 3 due
12	Criteria for spontaneous change	
	First hour exam	
13	Gibbs free energy	
14	Multicomponent systems, chemical potential	
15	Chemical equilibrium	
16	Temperature, pressure and K_p	Problem set 4 due
17	Equilibrium: application to drug design	
18	Phase equilibria — one component	
19	Clausius-Clapeyron equation	Problem set 5 due
20	Phase equilibria — two components	
	Second hour exam	
21	Ideal solutions	

SES #	TOPICS	KEY DATES
22	Non-ideal solutions	
23	Colligative properties	
24	Introduction to statistical mechanics	Problem set 6 due
25	Partition function (q) — large N limit	
26	Partition function (Q) — many particles	
27	Statistical mechanics and discrete energy levels	Problem set 7 due
28	Model systems	
29	Applications: chemical and phase equilibria	Problem set 8 due
30	Introduction to reaction kinetics	
	Third hour exam	
31	Complex reactions and mechanisms	
32	Steady-state and equilibrium approximations	
33	Chain reactions	
34	Temperature dependence, E_a, catalysis	Problem set 9 due
35	Enzyme catalysis	
36	Autocatalysis and oscillators	
	Final exam	