

Date	Topics	Reading
08 Jan	Course Overview; Thermodynamics Review	--
09 Jan	Lightning Review part 2; extended example (rubber)	--
15 Jan	Microscopic Basis for Thermodynamics	1.1 – 1.3
17 Jan	Schottky Defects; Classical Ideal Gas	1.4
22 Jan	Gibbs' Paradox	1.5 – 1.6
24 Jan	System in a Heat Bath; Partition Function	3.1 – 3.4
29 Jan	Examples: N Harmonic Oscillators, Ideal Gas	3.8
31 Jan	Energy Fluctuations	3.6
05 Feb	Paramagnetism	3.9 – 3.10
07 Feb	Classical Statistical Mechanics	2.1 – 2.5, 3.5
12 Feb	Grand Canonical Ensemble	4.1 – 4.3
14 Feb	Fluctuations in the Grand Canonical Ensemble	4.5
19 Feb	Adsorption	4.4
21 Feb	Quiz #1	--
26 Feb	Quantum Ideal Gases: General Considerations	6.1 – 6.3
28 Feb	Quantum Ideal Gases and the Classical Limit	--
05 Mar	Ideal Bose Gas Thermodynamic	7.1
07 Mar	Bose-Einstein Condensation	7.2
12 Mar	Photon Gas; Blackbody Radiation; Big Bang	7.3
14 Mar	Heat Capacity of Solids; Phonons	7.4
19 Mar	SPRING BREAK	
21 Mar	SPRING BREAK	
26 Mar	Ideal Fermi Gas; Heat Capacity of Solids (revisited)	8.1 – 8.3
28 Mar	White Dwarf Stars	8.4
02 Apr	Diatomic and Polyatomic Gases	6.5
04 Apr	Chemical Reactions	6.6
09 Apr	Early Universe I	9.1 – 9.4
11 Apr	Quiz #2	--

16 Apr	Early Universe II	9.5 – 9.8
18 Apr	Critical Phenomena; Landau Theory	12.1 – 12.9
23 Apr	Renormalization Group	14.1 – 14.4
25 Apr	Wilson's Theory; "the ϵ -expansion"	--

April 29 – May 03 is Finals Week
 Our scheduled final is Tuesday, April 30, 8:00a – 10:50a.