

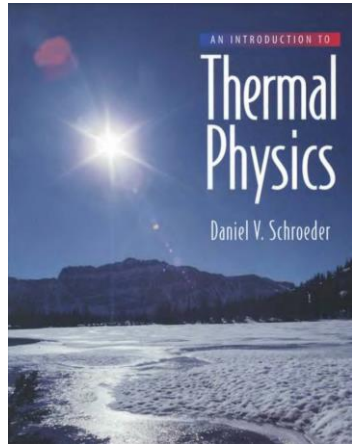
phys 342

Statistical Physics

Mohammed Abo Alreesh

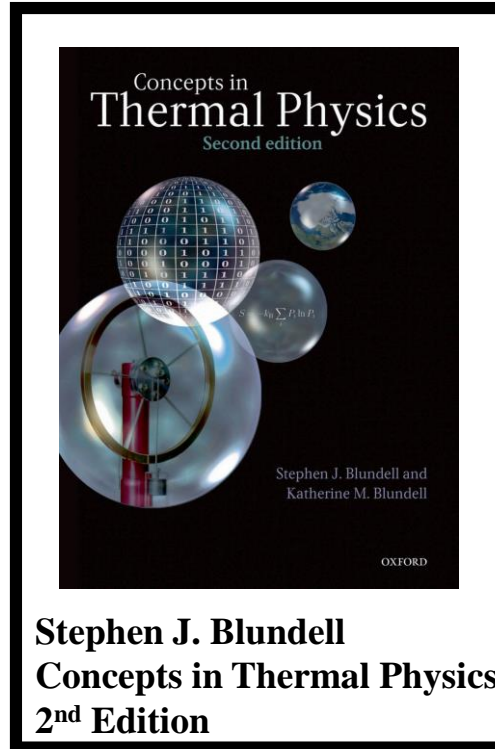
Reference and Syllabus

Text books



Daniel V. Schroeder
An Introduction to Thermal Physics
 (2000, Addison - Wesley)

Chapter 6, 7, 8



Stephen J. Blundell
Concepts in Thermal Physics
 2nd Edition



# of weeks	Chapter	Section	Main Topics
3	19	1 to 4	Equipartition of energy: equipartition theorem, Brownian motion
	20	1 to 4	The partition function: Its expression, the function of state, combining partition functions
3	21	1 to 6	Statistical mechanics of ideal gases: Density of states, quantum concentration, distinguishability, functions of states of ideal gases, Gibbs paradox, heat capacity of a diatomic gas
3	22	1, 2, 3, 5, 7	Chemical potential: definition, grand partition function, relation to Gibbs function, particle number conservation
3	23	4, 5, 6	Photons: radiation pressure, statistical mechanics of a gas of photons, Black body distribution.
	24	1,2	Phonons: the Einstein mode, the Debye model
3	26	overview	Real gas
	28		Phase transition
	29		Bose-Einstein and Fermi-Dirac distribution
	30		Quantum gases

Grading and Absence

		mark	time	location
1	4 Hw	15	4 times	written
2	2 midterms	30	TBD	In class
3	Final	40	TBD	TBD
4	Quizzes+ attendance, and participation	15	2-3 times	In class
	total	100		

Attendance :

- Students with absence hours **more than 25%** of the total course lectures will be **banned** from the Final Exam
- Attendance will be taken at **the exact beginning of the class**

Absence from Examinations:

- If you are unable to attend an examination owing to illness or other unavoidable circumstances, you should provide an acceptable evidence of '**good cause**' for such absence to the competent commission. If the absence is regarded as authorized, student will grant a Makeup Exam only **once**.
- No other Makeup Exam will be done in the same semester. If you miss the Makeup Exam, you will have a mark of zero.