HOWARD UNIVERSITY DEPARTMENT OF PHYSICS & ASTRONOMY

STATISTICAL MECHANICS II PHYS 223 SPRING 2018

M W F 1:10-2:00 PM TKH 207

INSTRUCTOR: Professor Prabhakar Misra

OFFICE: TKH# 102

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OFFICE HOURS: 2:00 PM - 3:00 PM M W and By Appointment

<u>Text:</u> "Statistical Mechanics," R.K. Pathria and Paul D. Beale, Butterworth Heinemann, Elsevier, 3nd edition, 2011 (ISBN: 978-0-12-382188-1).

SUBJECT MATTER WEEK(S) OF Statistical Mechanics of Solids 1/8, 1/17 & 1/22 Virial & Cluster Expansions 1/29, 2/5, & 2/12 Fluctuations & Correlations 2/21, 2/26, & 3/5 Neutron Scattering 3/19, 3/26 & 4/2 Second Quantization 4/9, 4/16 & 4/23

EXAM 1: 2/21/18 EXAM 2: 3/26/18 FINAL EXAM: 5/2/18

Grading Scheme: Homework 20 %; Exams (1 & 2) 40 %; Final Exam 40 %

Suggested Reading:

- 1. "Statistical Physics of Particles," M. Kardar, Cambridge University Press, Cambridge, 2007 (ISBN 978-0-521-87342-0).
- 2. "Statistical Physics of Fields," M. Kardar, Cambridge University Press, Cambridge, 2007 (ISBN 978-0-521-87341-3).
- 3. "Statistical Mechanics," T. Tsang, Rinton Press, Princeton, New Jersey, 2002 (ISBN 1-58949-006-1).
- 4. "Thermodynamics & Statistical Mechanics," W. Greiner, L. Neise & H. Stocker, Springer, New York, 1995 (ISBN 0-387-94299-8).
- 5. "Statistical Mechanics," R. Kubo, Interscience Publishers, New York, 1965 (ISBN 0-444-10637-5).

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