Physics 336

Thermodynamics & Statistical Mechanics

Syllabus Fall 2018 Hunter College

CONTACT INFORMATION
Instructor: Prof. János Bergou
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Office Hours: Wednesday 4:00pm-5:00 PM and by appointment
Class time and place: M, W, 2-4 PM, Rm. 1311 HN

TEXTBOOK
Thermodynamics, Kinetic Theory and Statistical Thermodynamics by Sears and Salinger, 3rd edition (Addison-Wesley, 1975)
http://hunter.textbookx.com/institutional/index.php?action=browse#books/1738410/

COURSE DESCRIPTION
The course will cover chapters 1-12 of the book. Chs. 1-8 cover Thermodynamics, 9 and 10 Kinetic Theory, 11 elements of Statistical Mechanics.

COURSE GRADE
There are home works, two midterms and a cumulative final exam. The home works count for 20%, each midterm counts for 20% and the final counts for 40%. The home works are due one week after the completion of the corresponding chapter, absolutely no late handins. All home works will be graded and handed back with solutions. If a student misses a midterm it counts as zero, there are no make-ups! The exam questions are problem solving types.

IMPORTANT DATES
Tuesday November 30th last day to withdraw from course with a "W" grade.
Wednesday December 12th last day of class.

ACADEMIC INTEGRITY
Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The college is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

ACCESSIBILITY
In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical

LEARNING OUTCOMES
In this course the students learn
- the concepts of thermodynamic systems, state variables and the thermodynamic temperature
- equations of state, phase transitions
- the fundamental laws of thermodynamics: first law (energy conservation), second law (entropy, reversible and
irreversible processes, and the direction of irreversible thermodynamic processes)
- the Carnot cycle and the efficiency of heat engines
- thermodynamic potentials and the third law of thermodynamics
- elements of kinetic theory

- elements of statistical thermodynamics, Bose-Einstein and Fermi-Dirac statistics, the Maxwell-Boltzmann distribution

In all of these areas the students will learn how to solve important problems constructively using the related concepts.