



Department of physics

College of education

Salahaddin University

Subject: STATISTICAL MECHANICS

Course Book – *Third year students*

Lecturer's name:

Lecture. Gullala Yaseen Bakr

Academic Year: 2023/2024

Course Book

1. Course name	STATISTICAL MECHANICS
2. Lecturer in charge	Lecture. Gullala Yaseen Bakr

3. Department/ College	physics / Education
4. Contact	e-mail: glala.baker@su.edu.krd Tel: 07504661338
5. Time (in hours) per week	For example Theory: 2 hrs/week Practical: hrs/week (groups, each hrs/week)
6. Office hours	Sunday 8:30-12:30 for two groups A&B
7. Course code	
8. Teacher's academic profile	
9. Keywords	Statistical mechanics, Thermodynamics, Maxwell-Boltzmann, Bose-Einstein and Fermi – Dirac distribution function
10. Course overview:	
<p>This course consists of one semester, where the scheduled time for this subject is two hours per week. The topics that are studied during this semester are statistical mechanics and thermodynamics, thermal equilibrium, thermal energy and temperature, the classical Maxwell-Boltzmann distribution, Bose-Einstein distribution as well as the Fermi-Dirac distribution theoretically and solve some examples related to these topics in class. The worksheet contains a summary of these topics and scientific books on these topics. As well as conducting some exams and giving assignments to students so that the topics are more clear to students. The students are also asked to do his/her work well in a specific time.</p>	
11. Course objective:	
<p>Students should understand the main principles of statistical mechanics and thermodynamics, thermal equilibrium, thermal energy and temperature, the classical Maxwell-Boltzmann distribution, Bose-Einstein distribution as well as the Fermi-Dirac distribution and its aspect by the end of the first semester.</p>	
12. Student's obligation	
<p>Students should come to class on time.</p> <p>Making a direct contact with their assistants.</p> <p>Keep the class. rules in tight.</p> <p>Doing their homework.</p> <p>Preparing for a 10 min quiz.</p> <p>Passing from the exam (passing grade is 50%)</p>	
13. Forms of teaching	
<p>We will use the whiteboard, data show and electronic teaching is also provided.</p>	

14. Assessment scheme asking questions-answering question, Quiz and exam are (40 marks) Final exam (60 marks)	
15. Student learning outcome: The outcome will be: 1- Thinking properly and quickly of principles related of statistical mechanic 2. Self study	
16. Course Reading List and References:	
17. The Topics:	Lecturer's name
18. Practical Topics (If there is any)	
1. Statistical Mechanics 2. Introduction to Statistical Mechanics 3. Thermodynamic Probability and Entropy 4. Classical Statistical Mechanics Maxwell-Boltzmann Statistics. 5. Quantum statistical mechanics 1- Bose-Einstein Statistics. 6. Quantum Statistical Mechanics 2-Fermi-Dirac distribution statistics.	from 4/09/2022to 08/12/2023
19. Examinations: 1. Derivation. 2. Definition. 3. Prove. 4. Cause and reason. 5. Choose the correct answers. 6. fill in the blanks.	

20. Extra notes:

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21. Peer review

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