PH241 Introduction to Modern Physics --- Spring 2025

Instructor: Soonchil Lee, nmr@kaist.ac.kr
Lecture Hours: 13:00 -14:30 Mondays & Wednesday
Textbook: “Modern Physics”, by Kenneth Krane, Wiley
Auxiliary textbook:
"*Spacetime Physics*", by Edwin F. Taylor and John A. Wheeler, W.H. Freeman & Co.
“*Modern Physics*”, by J. Bernstein, P. Fishbane, S. Gasiorowicz, Prentice Hall

Topics and Lecture Schedule

1. Introduction and Review
2. Special Theory of Relativity I
3. Special Theory of Relativity II
4. Wave-particle Duality
5. Superposition and Schrodinger’s cat
6. Atoms and Bohr Model
7. The Schrodinger Equation
8. Wave Packets and Uncertainty Principle
9. Entanglement
10. Quantum Technology
11. Statistical Physics
12. Solid-State Physics
13. Nuclear Structure
14. Elementary Particles

Evaluation

1. Exam : 80%
    1.A Midterm: 35%
    1.B Final: 45%
2. Homeworks and attendance: 20%