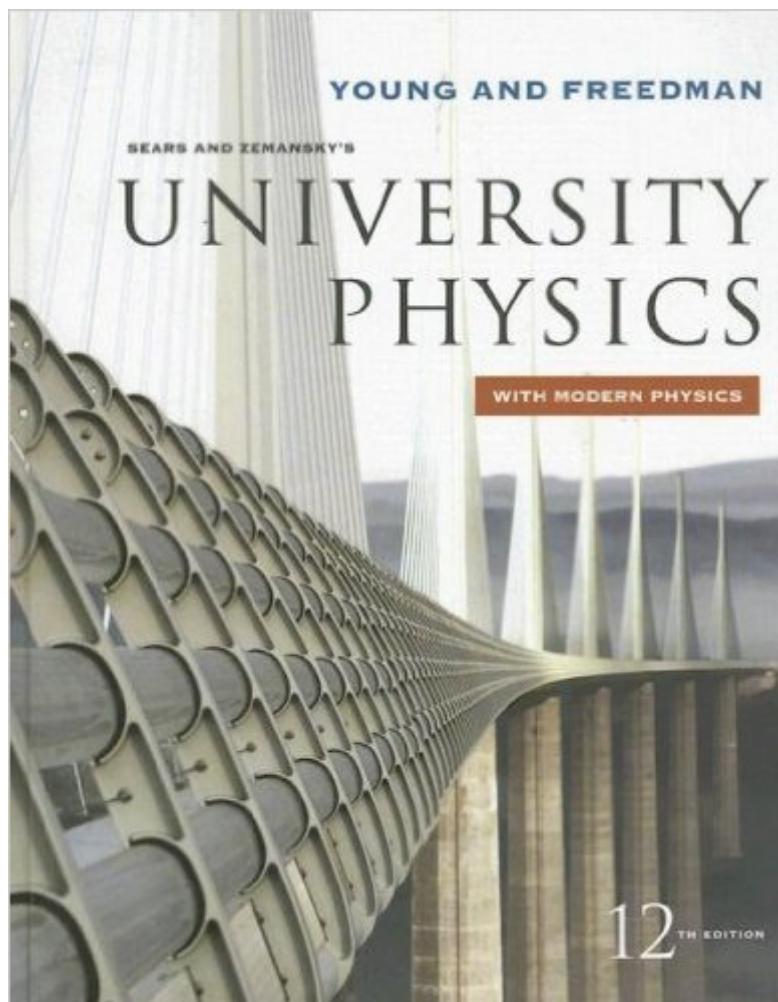


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# University Physics With Modern Physics (12th Edition)



## Synopsis

University Physics with Modern Physics, Twelfth Edition

## Book Information

Hardcover: 1632 pages

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## Customer Reviews

This book has clear explanations, nice pictures and good exercise problems. Interesting applications of physics like swiping of an ATM card and working of touchscreen devices are also mentioned. Exercise problems are categorized by section. Knowledge of differential and integral calculus is recommended, although you can learn a great deal even without it. Overall, this is simply the best introductory physics textbook out there! The following is the table of contents:

**MECHANICS**

- 1. Units, Physical Quantities, and Vectors
- 2. Motion Along a Straight Line
- 3. Motion in Two or Three Dimensions
- 4. Newton's Laws of Motion
- 5. Applying Newton's Laws
- 6. Work and Kinetic Energy
- 7. Potential Energy and Energy Conservation
- 8. Momentum, Impulse, and Collisions
- 9. Rotation of Rigid Bodies
- 10. Dynamics of Rotational Motion
- 11. Equilibrium and Elasticity
- 12. Fluid Mechanics
- 13. Gravitation
- 14. Periodic Motion

**WAVES/ACOUSTICS**

- 15. Mechanical Waves
- 16. Sound and Hearing

**THERMODYNAMICS**

- 17. Temperature and Heat
- 18. Thermal Properties of Matter
- 19. The First Law of Thermodynamics
- 20. The Second Law of Thermodynamics

**ELECTROMAGNETISM**

- 21. Electric Charge and Electric Field
- 22. Gauss's Law
- 23. Electric Potential
- 24. Capacitance and Dielectrics
- 25. Current, Resistance, and Electromotive Force
- 26. Direct-Current Circuits
- 27. Magnetic Field and Magnetic Forces
- 28. Sources of Magnetic Field
- 29. Electromagnetic Induction
- 30. Inductance
- 31. Alternating Current
- 32. Electromagnetic Waves

**OPTICS**

- 33. The Nature and Propagation of Light
- 34. Geometric Optics and Optical

Instruments35. Interference36. DiffractionMODERN PHYSICS37. Relativity38. Photons: Light Waves Behaving as Particles39. Particles Behaving as Waves40. Quantum Mechanics41. Atomic Structure42. Molecules and Condensed Matter43. Nuclear Physics44. Particle Physics and Cosmology

The text covers all the material in physics well and at a good pace. The material is not crammed or convoluted and there are plenty of examples to go along with the material. There are problems at the end of each chapter that are separated by section so you can focus on one topic, there are also mixed problems without labels so you can practice for exams, and a few challenge problems that are indeed quite challenging so all you physics geeks out there. In total there are about 100 to 110 problems at the end of every chapter (doesn't include the great examples within every chapter's reading). Reading this text allowed me to get an A in a physics course at Cornell with very little prior knowledge of physics. The only downside is if you buy all the volumes in one book, it is VERY large haha.

This book is perfect for calculus-based physics, but this particular book in ONE volume is even better because it contains material from both physics 1 & 2.

Hello, I am currently a junior in college. I used the 1st third of this book for my Physics I w/ Calculus class and I am currently using the 2nd third of this book for my Physics II w/ Calculus class. I am quite pleased with the book and how well it is written. My only complaint is that the writer does not provide enough detail for certain aspects of the examples... I guess this is where the teacher comes into play. All around though, this has been a great book for my classes. I would probably recommend getting the solutions manual if you can find a good deal on it. That way you will have access to the problems in more detail.

This book is great. It gives elaborate explanations on why you calculate the way you need to. It gives easy examples and eases into more complex ones. I think it is a great textbook and should be since it is the 12th edition. The publishers just came out with the 13th edition so if you are getting this book for school make sure you don't need the 13th edition.

All of the mechanics explanations are great but not for the light of heart. Some of the concepts get very hard very fast and make you feel like you missed some sort of a transition step in which you

tackle and medium problem before a hard one. Its explanations of magnetism concepts needed to be fleshed out a bit better but I would say that overall the book performed decently in teaching me what I needed it to.

Very thorough and comprehensive. Heavy, since it large and has a lot of pages, but the binding is very good. I actually had the 9th edition, and liked it so much I decided to also get the most recent (13th) edition. If you're looking for a lot of calculus based problems, this may not be for you, although it doesn't neglect them at all. Very well edited with no known errors, probably because it's been out for a while.

This book did an excellent job in explaining every concept. There is not an overwhelming amount of calculus in the text (Calc II is enough for most universities to follow). The book has TONS of examples and problems to work, giving you a shot at mastering. I would recommend... getting a hold of the instructor's manual for the worked end of chapter problems, and one can self-teach with this resource. Great diagrams and derivations.

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