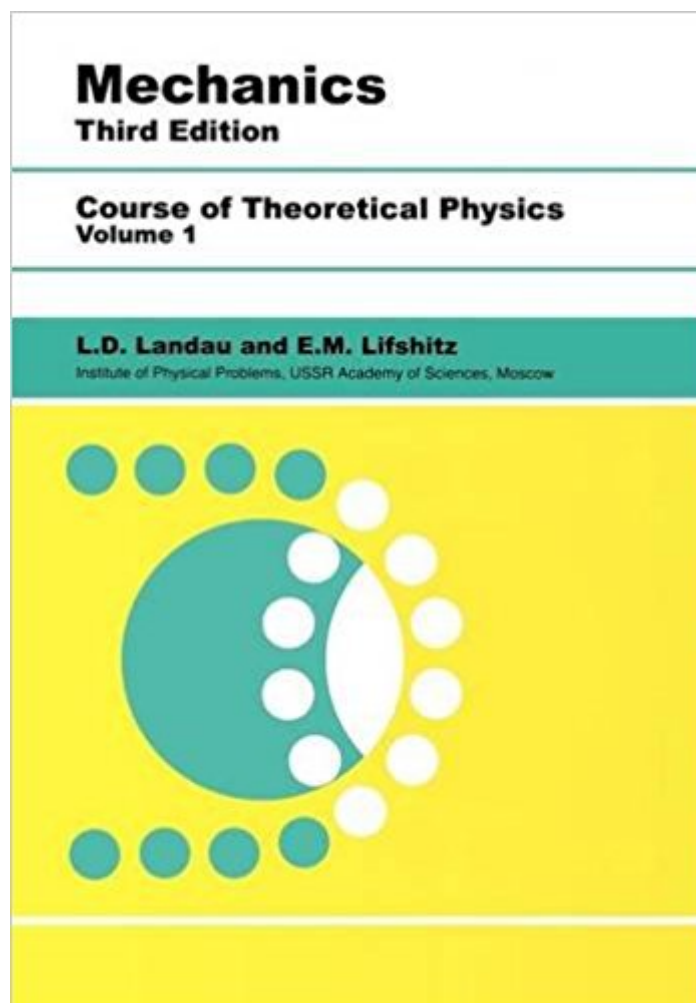


The book was found

# Mechanics, Third Edition: Volume 1 (Course Of Theoretical Physics S)



## Synopsis

Devoted to the foundation of mechanics, namely classical Newtonian mechanics, the subject is based mainly on Galileo's principle of relativity and Hamilton's principle of least action. The exposition is simple and leads to the most complete direct means of solving problems in mechanics. The final sections on adiabatic invariants have been revised and augmented. In addition a short biography of L D Landau has been inserted.

## Book Information

Series: Course of Theoretical Physics S

Paperback: 224 pages

Publisher: Butterworth-Heinemann; 3 edition (January 15, 1976)

Language: English

ISBN-10: 0723628963

ISBN-13: 978-0723628965

ASIN: 0750628960

Product Dimensions: 6.8 x 0.4 x 9.6 inches

Shipping Weight: 12 ounces (View shipping rates and policies)

Average Customer Review: 4.3 out of 5 stars [See all reviews](#) (63 customer reviews)

Best Sellers Rank: #70,264 in Books (See Top 100 in Books) #9 in [Books > Science & Math > Physics > Applied](#) #30 in [Books > Science & Math > Physics > Mechanics](#) #49 in [Books > Textbooks > Science & Mathematics > Mechanics](#)

## Customer Reviews

If physicists could weep, they would weep over this book. The book is devastatingly brief whilst deriving, in its few pages, all the great results of classical mechanics. Results that in other books take take up many more pages. I first came across Landau's mechanics many years ago as a brash undergrad. My prof at the time had given me this book but warned me that it's the kind of book that ages like wine. I've read this book several times since and I have found that indeed, each time is more rewarding than the last. The reason for the brevity is that, as pointed out by previous reviewers, Landau derives mechanics from symmetry. Historically, it was long after the main bulk of mechanics was developed that Emmy Noether proved that symmetries underly every important quantity in physics. So instead of starting from concrete mechanical case-studies and generalising to the formal machinery of the Hamilton equations, Landau starts out from the most generic symmetry and dervies the mechanics. The 2nd laws of mechanics, for example, is derived as a

consequence of the uniqueness of trajectories in the Lagrangian. For some, this may seem too "mathematical" but in reality, it is a sign of sophistication in physics if one can identify the underlying symmetries in a mechanical system. Thus this book represents the height of theoretical sophistication in that symmetries are used to derive so many physical results. The difficulty with this approach, and the reason why this book is not a beginner's book, is that to follow symmetric arguments, one really has to have already mastered vector calculus. Ideally, you should be able to transform coordinate in your sleep, perform integrals without missing a beat, whether they be line, area, or path, and differentiate functions in many dimensions.

[Download to continue reading...](#)

Statistical Physics, Third Edition, Part 1: Volume 5 (Course of Theoretical Physics, Volume 5)  
 Mechanics, Third Edition: Volume 1 (Course of Theoretical Physics S) Theory of Elasticity, Third Edition: Volume 7 (Course of Theoretical Physics) Quantum Mechanics: The Theoretical Minimum (Theoretical Minimum, The) The Nature of Theoretical Thinking in Nursing: Third Edition (Kim, The Nature of Theoretical Thinking in Nursing) Quantum Electrodynamics, Second Edition: Volume 4 (Course of Theoretical Physics) The Classical Theory of Fields, Fourth Edition: Volume 2 (Course of Theoretical Physics Series) Physical Kinetics: Volume 10 (Course of Theoretical Physics S) Third Eye: Awakening Your Third Eye Chakra: Beginner's Guide (Third Eye, Third Eye Chakra, Third Eye Awakening, Chakras) Third Eye: Third Eye Activation Secrets (Third Eye Awakening, Pineal Gland, Third Eye Chakra, Open Third Eye) Philosophical And Theoretical Perspectives For Advanced Nursing Practice (Cody, Philosophical and Theoretical Perspectives for Advances Nursing Practice) Computational Fluid Mechanics and Heat Transfer, Third Edition (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) The Solid State: An Introduction to the Physics of Crystals for Students of Physics, Materials Science, and Engineering (Oxford Physics Series) Dynamics, Information and Complexity in Quantum Systems (Theoretical and Mathematical Physics) Theoretical Physics 4: Special Theory of Relativity Theoretical Physics 3: Electrodynamics Theoretical Microfluidics (Oxford Master Series in Physics) AP<sup>®</sup> Physics 1 Crash Course Book + Online (Advanced Placement (AP) Crash Course) Python: PYTHON CRASH COURSE - Beginner's Course To Learn The Basics Of Python Programming In 24 Hours!: (Python, Python Programming, Python for Dummies, Python for Beginners, python crash course) Profiling and Serial Crime, Third Edition: Theoretical and Practical Issues

[Dmca](#)