
Preface

This book on Principles of Physics is intended to serve fundamental college courses in scientific curricula.

Physics is one of the most important tools to aid undergraduates, graduates, and researchers in their technical fields of study. Without it many phenomena cannot be described, studied, or understood. The topics covered here will help students interpret such phenomena, ultimately allowing them to advance in the applied aspects of their fields.

The goal of this text is to present many key concepts in a clear and concise, yet interesting way, making use of practical examples and attractively colored illustrations whenever appropriate to satisfy the needs of today's science and engineering students.

Some of the examples, proofs, and subsections in this textbook have been identified as optional and are preceded with an asterisk *. For less intensive courses these optional portions may be omitted without significantly impacting the objectives of the chapter. Additional material may also be omitted depending on the course's requirements.

The first author taught the material of this book in many universities in the Middle East for almost four decades. Depending on the university, he leveraged different international textbooks, resources, and references. These used different approaches, but were mainly written in an expansive manner delivering a plethora of topics while targeting students who wanted to dive deeply into the subject matter. In this textbook, however, the authors introduce a large subset of these topics but in a more simplified manner, with the intent of delivering these topics and their key facts to students all over the world and in particular to students in the Middle East and neighboring regions where English may not be the native language. The second author went over the entire text with the background of study and/or teaching at Caltech, UC Berkeley, and Yale.

Instructors teaching from this textbook will be able to gain online access from the publisher to the solutions manual, which provides step-by-step solutions to all exercises contained in the book. The solutions manual also contains many tips, colored illustrations, and explanations on how the solutions were derived.

Acknowledgments from Prof. Hafez A. Radi

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Hafez A. Radi
hafez.radi@gmail.com

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John O. Rasmussen
oxras@berkeley.edu

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Radi, H.A.; Rasmussen, J.O.

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