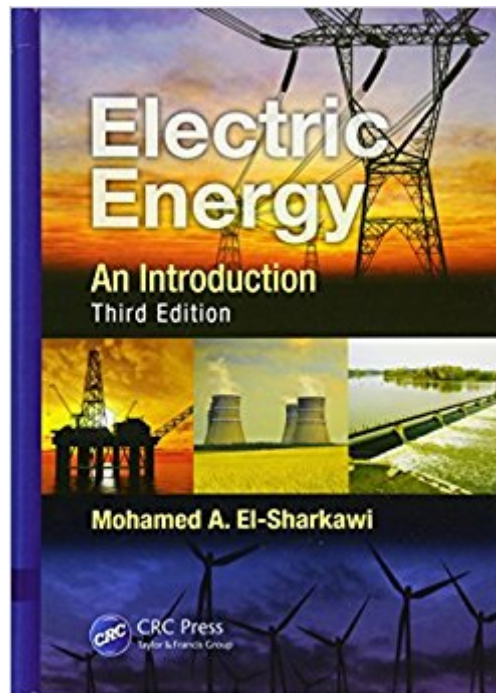


The book was found

Electric Energy: An Introduction, Third Edition (Power Electronics And Applications Series)



Synopsis

The search for renewable energy and smart grids, the societal impact of blackouts, and the environmental impact of generating electricity, along with the new ABET criteria, continue to drive a renewed interest in electric energy as a core subject. Keeping pace with these changes, *Electric Energy: An Introduction*, Third Edition restructures the traditional introductory electric energy course to better meet the needs of electrical and mechanical engineering students. Now in color, this third edition of a bestselling textbook gives students a wider view of electric energy, without sacrificing depth. Coverage includes energy resources, renewable energy, power plants and their environmental impacts, electric safety, power quality, power market, blackouts, and future power systems. The book also makes the traditional topics of electromechanical conversion, transformers, power electronics, and three-phase systems more relevant to students. Throughout, it emphasizes issues that engineers encounter in their daily work, with numerous examples drawn from real systems and real data.

What's New in This Edition

- Color illustrations
- Substation and distribution equipment
- Updated data on energy resources
- Expanded coverage of power plants
- Expanded material on renewable energy
- Expanded material on electric safety
- Three-phase system and pulse width modulation for DC/AC converters
- Induction generator
- More information on smart grids
- Additional problems and solutions

Combining the fundamentals of traditional energy conversion with contemporary topics in electric energy, this accessible textbook gives students the broad background they need to meet future challenges.

Book Information

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Customer Reviews

"El-Sharkawi's book is an excellent introduction to electric power. ... This very well-written book describes the hardware used in electrical power generation and transmission. Particularly valuable are the color pictures showing power plants, transmission lines and other hardware. The operation principles of the system are also clearly described in the book, without complicated unnecessary details. These explanations give an appropriate picture of the power system operation for incoming students. ... Particularly important are the clear discussion of renewable energy generation and the explanation of emerging generation techniques like fuel cells. The book presents well-prepared, practical numerical examples, which enforce students' ability to solve engineering problems."

•George G. Karady, Arizona State University, Tempe, USA "This is a great piece of work. It combines a diverse set of materials creatively in a single text. Excellent!"

•Peter Idowu, Penn State Harrisburg, Middletown, USA "The strength of this book is in its broad treatment of electric energy components and systems in a way that is both useful to engineering students as a stand-alone course, and provides background for more advanced study in these topics."

•Paul Hines, The University of Vermont, Burlington, USA Praise for the Second Edition "I found the book to be a nice introductory course to the discipline of electric energy production, transmission, and distribution. I would recommend it to the undergraduate student beginning to explore the rewarding career path of electrical engineering, and equally so to nontechnical professionals working in the power and energy industry who may wish to gain greater insight into the functioning and operations of the electric power system. I truly enjoyed reading this book."

•Pouyan Pourbeik, IEEE Power & Energy Magazine

Mohamed A. El-Sharkawi is a fellow of the IEEE and a professor of electrical engineering in the energy area at the University of Washington. He has published more than 250 papers and holds five licensed patents in the area of renewable energy VAR management and minimum arc sequential circuit breaker switching. For more information, please visit Professor El-Sharkawi's website at the University of Washington.

Simply terrible. There are so many errors that it is nearly impossible to learn the material correctly. There are numerous formulas written wrong in the text itself. The end of chapter problems contain many errors, along with the solutions. The only thing I liked at all is the numerous color photographs

in the book. However, the book contains an unpardonable amount of errors, inconsistencies, and flat out self contradictions. Please don't buy it unless you are forced to by your school.

My brief, broad review (I haven't finished reading the textbook, so I won't commit to writing a detailed overall review) :Very clear, *especially* for an engineering text. The title is accurate; this textbook is indeed an introduction. One reviewer commented that the mathematics is heavy in this text; I find this comment inaccurate. The mathematics is basic, and it's the mathematics you would easily see in any introductory circuits textbook. The amount of mathematics is minimal, but sufficient. The author has provided a very nice, illustrative collection of pictures and diagrams representing the topic/concepts at hand. This has been very useful. The small amounts of history injected throughout the text provides useful insight and motivation for the topic/concept. I'm glad the author doesn't overdo this and induce unnecessary distractions and text clutter. Recommended.

As a 3rd year electrical engineering student I can confidently say this is the best textbook I have used and its only the 3rd week of the semester. I would definitely recommend this book to anyone even if they are not taking a course that requires this text. The quality of this book is apparent and I will enjoy reading it all semester long.

I found this book very easy to read and understand the written word. I found most of the written material more basic in form than I expected understanding that this book was an "introduction" to. I enjoyed very much reading about Nickola Tesla as he is the greatest inventor of all times, in my mind, mainly due to his inventing AC power. My disappointment came in all the math and formula which offered the bulk of explanation. Those interested in heavy math and formula would enjoy this book very much.

Much better than Wilde's textbook.

OMG I loved this book for school

This could be a much better book but there are so many errors and obvious typos that you need to be very aware of what you are studying. For example, in the per-phase WYE section, you'll notice the subscripts for each phase are occasionally mislabeled. BUT the book is very straight to the point with clear diagrams and examples. If you follow closely, you will learn just fine. It is a lot less

confusing than other material I have studied.

This is by far the best EE textbook I have ever had to read. It was actually enjoyable and to the point. The book has smooth transitions and the examples are in sync with what is being read. Would recommend to anyone interested in learning about electric energy.

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