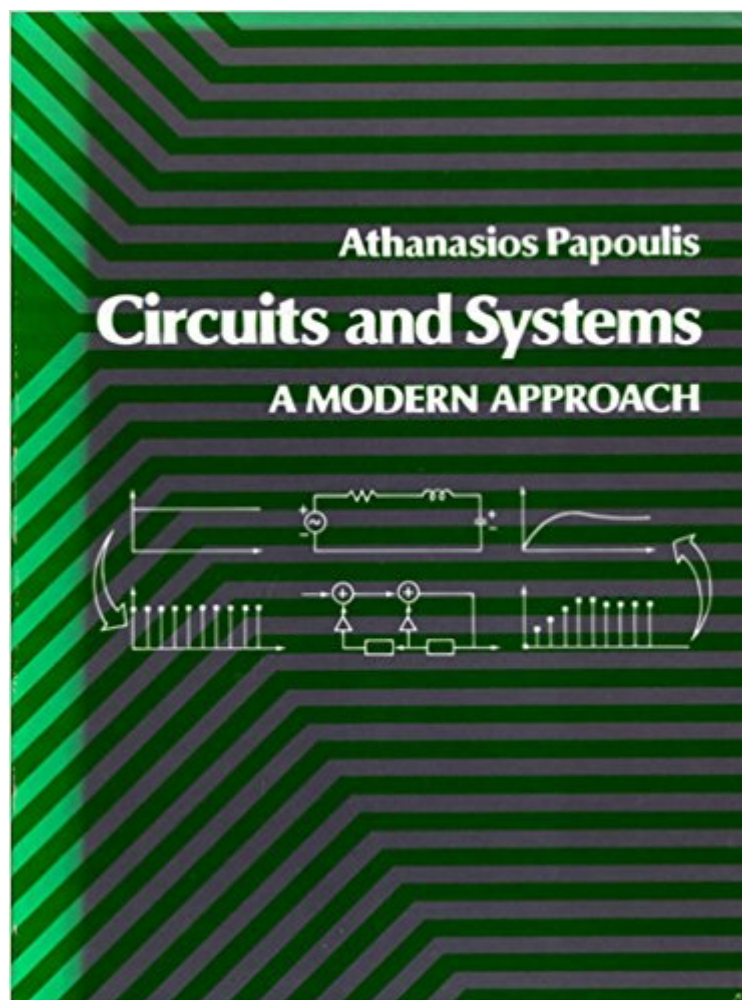The book was found

Circuits And Systems: A Modern Approach (The Oxford Series In Electrical And Computer Engineering)

Synopsis

Athanasios Papoulis' classic text was the first to present digital techniques as an integral part of a unified course in system theory and design, rather than as a separate unit. The enduring success of Circuits and Systems undoubtedly is due in large part to the author's concentration on fundamental ideas explained in the context of simple illustrations. The text develops analog systems parallel to digital systems, emphasizes the concepts of linearity, superposition, impulse response, frequency response, and system function. Laplace transforms and z-transforms are treated briefly, but completely, and the introduction to digital and sampled-analog simulation is based on the approximation of the convolution integral by a sum. The development of the material as a deductive discipline strengthens the student's analytical ability in the engineering course.

Book Information

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Customer Reviews

What's the use of reviewing a thirty-years old book? Well, the former reviewer rated it to low IMHO.I use this book as a primary reference for the first half of a course on "Signal Processing". The course is now in its 5th run. General linear systems theory is well treated in Papoulis, using electrical circuits as examples, and there are plenty of end-of-the-chapter exercises and a fair amount of solved exercises along the chapters. The book does a good job in linking discrete to continuous systems -- the former can be a simulation model of the latter --, discusses very well convolution, Z transform, Laplace transform, frequency response, system function, etc.The book has "the right

size": neither too verbose (as often happens with modern textbooks in many areas) neither to terse. I'm always looking for a very good textbook in this area, but found none yet. Papoulis' one is a good (albeit old) choice.The negative aspects of the book, which are responsible for losing one star in rating, are a scarce treatment of Digital Signal Processing (I use the original Oppenheim & Schafer DSP bookÂ Digital Signal ProcessingÂ for most of the second half of the course) and the perception of a reasonably sized flock of typos. The chapter on synthesis of analog systems should be replaced by DSP content (ok, here the book shows its age...). FIR and IIR filters are more or less mentioned "en passant", bilinear (Tustin) transform and frequency warping are discussed, but not with enough deepness and clarity to reccommend the book for DSP studies.But, as someone said, "the optimum is the enemy of the good", and so I still stick with a good old book for (a part of) my course.

This is the textbook used (still) by my EE program. Why a book published in 1980 is still the only required text for a Systems and Signals class in 2005, I'll never know(seems like something would have changed in the world of electronics in the past 25 years). This book is nearly impossible to learn from by studying independently. Very few examples, and at least half of every page is taken up by underexplained equations. Very hard to follow on the undergrad level. For the undergrad student, I highly recommend the book by Lathi. It much easier to understand and study on your own. After buying the Lathi book, I went from being struggling for hours upon hours trying to understand a theory to having a concise, very easy to follow reference that greatly cut my study time down.Since this book is out of print, probably very few people have it as a required text. I do not recommend trying to learn from this book. However, it can be useful to someone who understands the majority of the concepts presented in this book who wants a reference without a lot of explanation. This book is basically a large formula sheet.

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