DESCRIPTION

Ziemer and Tranter provide a thorough treatment of the principles of communications at the physical layer suitable for college seniors, beginning graduate students, and practicing engineers. This is accomplished by providing overviews of the necessary background in signal, system, probability, and random process theory required for the analog and digital communications topics covered in the book. In addition to stressing fundamental concepts, the seventh edition features sections on important areas such as spread spectrum, cellular communications, and orthogonal frequency-division multiplexing. While the book is aimed at a two-semester course, more than enough material is provided for structuring courses according to students need and instructor preference.

ABOUT THE AUTHOR

Dr. Rodger E. Ziemer received his B.S., M.S., and Ph.D. degrees from the University of Minnesota from 1960 to 1965. He joined the University of Colorado at Colorado Springs in 1984 as Chairman and Professor in the ECE Department. In conjunction, Dr. Ziemer worked as the Program director for Communications Research for the National Science Foundation from 1998 to 2001. In May of 2008 he was appointed Professor Emeritus.

NEW TO EDITION

• The updated seventh edition of Principles of Communications presents readers with a more supportive framework for learning through additional in-chapter examples.

• Chapter 3, basic modulation techniques, has been split into linear modulation techniques, angle modulation and multiplexing.

• Readers are exposed to digital data transmission techniques earlier in the book, so they can appreciate the characteristics of digital communication systems prior to learning about probability and stochastic processes.

• They will also find expanded forward error correction code examples, and additional MATLAB problems.

• Updated references and chapter on Information Theory and Coding.

• Additional material on wireless topics, such as WiFi and MIMO channels.

FEATURES

• Examples illustrating key points are included in each chapter, providing students with illustrations of how to apply theory developed in the text and Assisting instructors in development of material to be used in future chapters.

• Computational computer examples are included in each chapter, illustrating the use of the computer for calculation of various performance curves, and allowing students to reproduce, or add to, performance curves included in text. This encourages students to illustrate concepts rather than simply to accept them as shown.

• Chapter summaries are arranged as bulleted lists, providing a concise checklist for students’ exam review and for instructors’ lecture preparation.
• A wide variety of are problems included at the end of each chapter, categorized according to section, Allowing student to practice on concepts given in text. This also allows instructors to make assignments to check on the students' understanding of concepts presented in class.

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