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NWEVWR - KAYLYN ADELAIDE

MATLAB is an indispensable asset for scientists, researchers, and engineers. The richness of the MATLAB computational environment combined with an integrated development environment (IDE) and straightforward interface, toolkits, and simulation and modeling capabilities, creates a research and development tool that has no equal. From quick code prototyping to full blown deployable applications, MATLAB stands as a de facto development language and environment serving the technical needs of a wide range of users. As a collection of diverse applications, each book chapter presents a novel application and use of MATLAB for a specific result.

Using real-world examples to thoroughly involves readers with financial statements, Financial Reporting and Analysis, 9e builds skills in analyzing real financial reports through statements, exhibits, and cases of actual companies. Emphasis is placed on the analysis and interpretation of the end result of financial reporting " financial statements.

Over the past two decades, projects supported by the International Development

Research Centre (IDRC) have critically examined the ways in which information and communications technologies (ICTs) can be used to improve learning, empower the disenfranchised, generate income opportunities for the poor, and facilitate access to healthcare in Africa, Asia, Latin America and the Caribbean. Considering that most development institutions and governments are currently attempting to integrate ICTs into their practices, it is an opportune time to reflect on the research findings that have emerged from IDRC's work and research in this area. "Connecting ICTs to Development" discusses programmatic investments made by IDRC in a wide variety of areas related to ICTs, including infrastructure, access, regulations, health, governance, education, livelihoods, social inclusion, technical innovation, intellectual property rights and evaluation. Each chapter in this book analyzes the ways in which research findings from IDRC-supported projects have contributed to an evolution of thinking, and discusses successes and challenges in using ICTs as tools to address development issues. The volume also presents key lessons learned from ICT4D programming and recommendations

for future work.

THE TELECOMMUNICATIONS HANDBOOK
THE TELECOMMUNICATIONS HANDBOOK
ENGINEERING GUIDELINES FOR FIXED,
MOBILE AND SATELLITE SYSTEMS Taking
a practical approach, The Telecommuni-
cations Handbook examines the princi-
ples and details of all the major and mod-
ern telecommunications systems current-
ly available to industry and to end-users.
It gives essential information about us-
age, architectures, functioning, planning,
construction, measurements and opti-
mization. The structure of the book is mo-
dular, giving both overall descriptions of
the architectures and functionality of typ-
ical use cases, as well as deeper and
practical guidelines for telecom profession-
als. The focus of the book is on current
and future networks, and the most up-to-
date functionalities of each network are
described in sufficient detail for deploy-
ment purposes. The contents include an
introduction to each technology, its evo-
lution path, feasibility and utilization, so-
lution and network architecture, and
technical functioning of the systems (sig-
naling, coding, different modes for chan-
nel delivery and security of core and ra-
dio system). The planning of the core
and radio networks (system-specific field
test measurement guidelines, hands-on
network planning advices and sugges-
tions for parameter adjustments) and fu-
ture systems are also described. With
contributions from specialists in both in-
dustry and academia, the book bridges
the gap between communications in the
academic context and the practical
knowledge and skills needed to work in
the telecommunications industry.

This book provides up to date coverage
of the basics of ATM and internet proto-
cols, and characteristics of satellite net-
works and internetworking between

satellite and terrestrial networks Satellite
Networking: Principles and Protocols, Se-
cond Edition provides up to date informa-
tion of the original topics in satellite net-
working and protocols focusing on Inter-
net Protocols (IP) over satellites, broad-
band over satellites, next generation IP
(IPv6) over satellites, new generation of
DVB-S/S2 and DVB-RCS next generations
and new services and applications. It al-
so includes some analytical techniques
for evaluation of end to end IP perfor-
mance and QoS over satellite, reflecting
the recent convergence of telecommuni-
cation, Internet, broadcasting and mo-
bile networks. Topics new to this edition:
Internetworking with MANET, DVB-S/S2
and DVB-RCS/RCS2 (including TCP/IP
over DVB-S/RCS), recent developments
in broadband satellite systems, conver-
gence of services and network technolo-
gies (including Internet, telecom, mobile,
TV, etc.), radio resource management,
PEP, I-PEP, SCPS, traffic modelling and en-
gineering with analysis and examples,
and future developments of satellite net-
working. Provides up to date coverage of
the basics of ATM and internet protocols,
and characteristics of satellite networks
and internetworking between satellite
and terrestrial networks (e.g. mobile ad
hoc networks), including coverage of
new services and applications (e.g. Inter-
net, telecom, mobile and TV) Discusses
the real-time protocols including RTP,
RTCP and SIP for real-time applications
such as VoIP and MMC, and explains
TCP/IP over satellite and evolution of
IPv6 over satellite and beyond

This textbook provides a comprehensive,
fully-updated introduction to the essen-
tials of nanometer CMOS integrated cir-
cuits. It includes aspects of scaling to
even beyond 12nm CMOS technologies
and designs. It clearly describes the fun-
damental CMOS operating principles and

presents substantial insight into the various aspects of design implementation and application. Coverage includes all associated disciplines of nanometer CMOS ICs, including physics, lithography, technology, design, memories, VLSI, power consumption, variability, reliability and signal integrity, testing, yield, failure analysis, packaging, scaling trends and road blocks. The text is based upon in-house Philips, NXP Semiconductors, Applied Materials, ASML, IMEC, ST-Ericsson, TSMC, etc., courseware, which, to date, has been completed by more than 4500 engineers working in a large variety of related disciplines: architecture, design, test, fabrication process, packaging, failure analysis and software.

The book that inspired the major new motion picture *Mandela: Long Walk to Freedom*. Nelson Mandela is one of the great moral and political leaders of our time: an international hero whose lifelong dedication to the fight against racial oppression in South Africa won him the Nobel Peace Prize and the presidency of his country. Since his triumphant release in 1990 from more than a quarter-century of imprisonment, Mandela has been at the center of the most compelling and inspiring political drama in the world. As president of the African National Congress and head of South Africa's anti-apartheid movement, he was instrumental in moving the nation toward multiracial government and majority rule. He is revered everywhere as a vital force in the fight for human rights and racial equality. *LONG WALK TO FREEDOM* is his moving and exhilarating autobiography, destined to take its place among the finest memoirs of history's greatest figures. Here for the first time, Nelson Rolihlahla Mandela tells the extraordinary story of his life--an epic of struggle, setback, renewed hope, and ultimate tri-

umph.

The world order built upon the Peace of Westphalia is faltering. State fragility or failure are endemic, with no fewer than one-third of the states in the United Nations earning a "high warning"-or worse-in the Fragile States Index, and an equal number suffering a decline in sustainability over the past decade.¹ State weakness invites a range of illicit actors, including international terrorists, globally networked insurgents, and transnational criminal organizations (TCOs). The presence and operations of these entities keep states weak and incapable of effective governance, and limit the possibility of fruitful partnerships with the United States and its allies. Illicit organizations and their networks fuel corruption, eroding state legitimacy among the governed, and sowing doubt that the state is a genuine guardian of the public interest. These networks can penetrate the state, leading to state capture, and even criminal sovereignty.² A growing number of weak and corrupt states is creating gaping holes in the global rule-based system of states that we depend on for our security and prosperity. Indeed, the chapters of this book suggest the emergence of a highly adaptive and parasitic alternative ecosystem, based on criminal commerce and extreme violence, with little regard for what we commonly conceive of as the public interest or the public good. The last 10 years have seen unprecedented growth in interactivity between and among a wide range of illicit networks, as well as the emergence of hybrid organizations that use methods characteristic of both terrorist and criminal groups. In a convergence of interests, terrorist organizations collaborate with cartels, and trafficking organizations collude with insurgents. International terrorist organizations, such as al-Qae-

da and Hezbollah, engage energetically in transnational crime to raise funds for their operations. Prominent criminal organizations like Los Zetas in Mexico and D-Company in Pakistan have adopted the symbolic violence of terrorists-the propaganda of the deed-to secure their "turf." And networked insurgents, such as the Islamic State of Iraq and the Levant (ISIL), the Revolutionary Armed Forces of Colombia (FARC), and the Liberation Tigers of Tamil Eelam (LTTE), have adopted the techniques of both crime and terror.

Since the publication of the best-selling first edition of *The Satellite Communication Applications Handbook*, the satellite communications industry has experienced explosive growth. Satellite radio, direct-to-home satellite television, satellite telephones, and satellite guidance for automobiles are now common and popular consumer products. Similarly, business, government, and defense organizations now rely on satellite communications for day-to-day operations. This second edition covers all the latest advances in satellite technology and applications including direct-to-home broadcasting, digital audio and video, and VSAT networks. Engineers get the latest technical insights into operations, architectures, and systems components.

The Institute of Food Technologists (IFT) recently endorsed the use of computers in food science education. The minimum standards for degrees in food science, as suggested by IFT, "require the students to use computers in the solution of problems, the collection and analysis of data, the control processes, in addition to word processing." Because they are widely used in business, allow statistical and graphical of experimental data, and can mimic laboratory experimentation,

spreadsheets provide an ideal tool for learning the important features of computers and programming. In addition, they are ideally suited for food science students, who usually do not have an extensive mathematical background. Drawing from the many courses he has taught at UC Davis, Dr. Singh covers the general basics of spreadsheets using examples specific to food science. He includes more than 50 solved problems drawn from key areas of food science, namely food microbiology, food chemistry, sensory evaluation, statistical quality control, and food engineering. Each problem is presented with the required equations and detailed steps necessary for programming the spreadsheet. Helpful hints in using the spreadsheets are also provided throughout the text. Key Features *

- * The first book to integrate spreadsheets in teaching food science and technology
- * Includes more than 50 solved examples of spreadsheet use in food science and engineering
- * Presents a step-by-step introduction to spreadsheet use
- * Provides a food composition database on a computer disk

This book constitutes the thoroughly refereed proceedings of the 6th International Conference on e-Infrastructure and e-Services for Developing Countries, AFRI-COMM 2014, held in Kampala, Uganda, November 24-25, 2014. The 31 revised full papers were carefully selected from 57 submissions and cover topics such as communication infrastructure, health, IoT, cloud computing and TVWS, ICT4D applications, access to information, and ICT4D miscellaneous.

Introducing data communications and computer networks, this revised and updated edition takes account of developments in the area. Coverage includes essential theory associated with digital transmission, interface standards, data

compression and error detection methods.

The book covers all the fundamentals of satellites, ground control systems, and earth stations, considering the design and operation of each major segment. You gain a practical understanding of the basic construction and usage of commercial satellite networks. Cohow parts of a satellite system function, how various components interact, which role each component plays, and which factors are the most critical to success."

Appropriate for Computer Networking or Introduction to Networking courses at both the undergraduate and graduate level in Computer Science, Electrical Engineering, CIS, MIS, and Business Departments. Tanenbaum takes a structured approach to explaining how networks work from the inside out. He starts with an explanation of the physical layer of networking, computer hardware and transmission systems; then works his way up to network applications. Tanenbaum's in-depth application coverage includes email; the domain name system; the World Wide Web (both client- and server-side); and multimedia (including voice over IP, Internet radio video on demand, video conferencing, and streaming media).

Power electronics, which is a rapidly growing area in terms of research and applications, uses modern electronics technology to convert electric power from one form to another, such as ac-dc, dc-dc, dc-ac, and ac-ac with a variable output magnitude and frequency. Power electronics has many applications in our every day life such as air-conditioners, electric cars, sub-way trains, motor drives, renewable energy sources and power supplies for computers. This book covers all aspects of switching devices,

converter circuit topologies, control techniques, analytical methods and some examples of their applications. * 25% new content * Reorganized and revised into 8 sections comprising 43 chapters * Coverage of numerous applications, including uninterruptable power supplies and automotive electrical systems * New content in power generation and distribution, including solar power, fuel cells, wind turbines, and flexible transmission

Beginning with discussions on the operation of electronic devices and analysis of the nucleus of digital design, the text addresses: the impact of interconnect, design for low power, issues in timing and clocking, design methodologies, and the effect of design automation on the digital design perspective.

This CIGRE green book begins by addressing the specification and provision of communication services in the context of operational applications for electrical power utilities, before subsequently providing guidelines on the deployment or transformation of networks to deliver these specific communication services. Lastly, it demonstrates how these networks and their services can be monitored, operated, and maintained to ensure that the requisite high level of service quality is consistently achieved.

Infrastructure for Homeland Security Environments Wireless Sensor Networks helps readers discover the emerging field of low-cost standards-based sensors that promise a high order of spatial and temporal resolution and accuracy in an ever-increasing universe of applications. It shares the latest advances in science and engineering paving the way towards a large plethora of new applications in such areas as infrastructure protection and security, healthcare, energy, food safety, RFID, ZigBee, and processing. Un-

like other books on wireless sensor networks that focus on limited topics in the field, this book is a broad introduction that covers all the major technology, standards, and application topics. It contains everything readers need to know to enter this burgeoning field, including current applications and promising research and development; communication and networking protocols; middleware architecture for wireless sensor networks; and security and management. The straightforward and engaging writing style of this book makes even complex concepts and processes easy to follow and understand. In addition, it offers several features that help readers grasp the material and then apply their knowledge in designing their own wireless sensor network systems:

- * Examples illustrate how concepts are applied to the development and application of wireless sensor networks
- * Detailed case studies set forth all the steps of design and implementation needed to solve real-world problems
- * Chapter conclusions that serve as an excellent review by stressing the chapter's key concepts
- * References in each chapter guide readers to in-depth discussions of individual topics

This book is ideal for networking designers and engineers who want to fully exploit this new technology and for government employees who are concerned about homeland security. With its examples, it is appropriate for use as a coursebook for upper-level undergraduates and graduate students.

A cutting edge collection of 59 essays solicited from Web-based instructors offering a variety of perspectives, notions, and experiences in the practice of virtual teaching. The compendium introduces the evolution and status of distance learning, critical issues in Web-based learning environments such as the simi-

larities and differences between Web-based and traditional classrooms, specific discussions on designing learning activities and electronic textbooks, an evaluation of delivery systems for instruction, and case studies of Web-based courses from kindergarten and beyond to the instruction of literature, astronomy, and foreign languages. Includes illustrations. Annotation copyrighted by Book News, Inc., Portland, OR

Urban Drainage has been thoroughly revised and updated to reflect changes in the practice and priorities of urban drainage. New and expanded coverage includes: Sewer flooding The impact of climate change Flooding models The move towards sustainability Providing a descriptive overview of the issues involved as well as the engineering principles and analysis, it draws on real-world examples as well as models to support and demonstrate the key issues facing engineers dealing with drainage issues. It also deals with both the design of new drainage systems and the analysis and upgrading of existing infrastructure. This is a unique and essential textbook for students of water, environmental, and public health engineering as well as a valuable resource for practising engineers.

This text aims to provide the fundamentals necessary to understand semiconductor device characteristics, operations and limitations. Quantum mechanics and quantum theory are explored, and this background helps give students a deeper understanding of the essentials of physics and semiconductors.

Fully updated edition of the comprehensive, single-source reference on satellite technology and its applications Covering both the technology and its applications, Satellite Technology is a concise refer-

ence on satellites for commercial, scientific and military purposes. The book explains satellite technology fully, beginning by offering an introduction to the fundamentals, before covering orbits and trajectories, launch and in-orbit operations, hardware, communication techniques, multiple access techniques, and link design fundamentals. This new edition also includes comprehensive chapters on Satellite Networks and Satellite Technology - Emerging Trends. Providing a complete survey of applications, from remote sensing and military uses, to navigational and scientific applications, the authors also present an inclusive compendium on satellites and satellite launch vehicles. Filled with diagrams and illustrations, this book serves as an ideal introduction for those new to the topic, as well as a reference point for professionals. Fully updated edition of the comprehensive, single-source reference on satellite technology and its applications - remote sensing, weather, navigation, scientific, and military - including new chapters on Satellite Networks and Satellite Technology - Emerging Trends Covers the full range of satellite applications in remote sensing, meteorology, the military, navigation and science, and communications, including satellite-to-under sea communication, satellite cell-phones, and global Xpress system of IN-MARSAT The cross-disciplinary coverage makes the book an essential reference book for professionals, R&D scientists and students at post graduate level Companion website provides a complete compendium on satellites and satellite launch vehicles An ideal introduction for Professionals and R&D scientists in the field. Engineering Students. Cross disciplinary information for engineers and technical managers. Information and communication technolo-

gy (ICT) has dramatically altered the world's social and economic landscape and is now gaining momentum in the realm of language studies. <lt>Corpora and ICT in Language Studies attempts to signal and document this phenomenon by bringing together twenty-nine contributions authored by both seasoned researchers and newcomers to the field. The contributions range from more traditional corpus-based or corpus-driven studies to those incorporating ICT as an integral part of their methodology. The volume includes a selection of conference papers given at PALC 2005, the fifth conference in the biennial cycle of meetings organized by the Department of English Language at Łódź University, as well as a number of invited papers. The papers are grouped in three parts: corpora in empirical language studies, cognitive linguistics and e-learning."

A true revolution has rocked the space industry, as Silicon Valley and new startup companies around the world have shaken up the status quo. This has in turn triggered a hefty response among traditional aerospace companies, launching the sector into the new Space 2.0. This book explains how and why this remarkable change has happened, starting from the industry's origins during the Space Age and working its way to the present day. No other industry in the world has experienced the dramatic shift in technology and services as rapidly as the field of satellite services and rocket launch systems has. This book analyzes the dynamic shift over the past decade in how satellites are designed, manufactured, launched, and operated. It also turns an eye to the future, discussing the amazing feats and potential issues we can expect from this shifting arena by 2030. With its beginner-friendly writing style and plethora of illustrations, this book

serves as a perfect introductory text to students and professionals alike wishing to learn more about the key trends in the field of space applications and launch systems.

The job of any reservoir engineer is to maximize production from a field to obtain the best economic return. To do this, the engineer must study the behavior and characteristics of a petroleum reservoir to determine the course of future development and production that will maximize the profit. Fluid flow, rock properties, water and gas coning, and relative permeability are only a few of the concepts that a reservoir engineer must understand to do the job right, and some of the tools of the trade are water influx calculations, lab tests of reservoir fluids, and oil and gas performance calculations. Two new chapters have been added to the first edition to make this book a complete resource for students and professionals in the petroleum industry: Principles of Waterflooding, Vapor-Liquid Phase Equilibria.

The first edition of Satellite Communications Systems Engineering (Wiley 2008) was written for those concerned with the design and performance of satellite communications systems employed in fixed point to point, broadcasting, mobile, radio navigation, data relay, computer communications, and related satellite based applications. This welcome Second Edition continues the basic premise and enhances the publication with the latest updated information and new technologies developed since the publication of the first edition. The book is based on graduate level satellite communications course material and has served as the primary text for electrical engineering Masters and Doctoral level courses in satellite communications and related ar-

reas. Introductory to advanced engineering level students in electrical, communications and wireless network courses, and electrical engineers, communications engineers, systems engineers, and wireless network engineers looking for a refresher will find this essential text invaluable.

Planning. Attention. Memory. Self-regulation. These and other core cognitive and behavioral operations of daily life comprise what we know as executive functioning (EF). But despite all we know, the concept has engendered multiple, often conflicting definitions and its components are sometimes loosely defined and poorly understood. The Handbook of Executive Functioning cuts through the confusion, analyzing both the whole and its parts in comprehensive, practical detail for scholar and clinician alike. Background chapters examine influential models of EF, tour the brain geography of the executive system and pose salient developmental questions. A section on practical implications relates early deficits in executive functioning to ADD and other disorders in children and considers autism and later-life dementias from an EF standpoint. Further chapters weigh the merits of widely used instruments for assessing executive functioning and review interventions for its enhancement, with special emphasis on children and adolescents. Featured in the Handbook: The development of hot and cool executive function in childhood and adolescence. A review of the use of executive function tasks in externalizing and internalizing disorders. Executive functioning as a mediator of age-related cognitive decline in adults. Treatment integrity in interventions that target executive function. Supporting and strengthening working memory in the classroom to enhance executive functioning. The Handbook of

Executive Functioning is an essential resource for researchers, scientist-practitioners and graduate students in clinical child, school and educational psychology; child and adolescent psychiatry; neurobiology; developmental psychology; rehabilitation medicine/therapy and social work.

Aid work has always been a hazardous profession. But now, the dangers appear to be increasing. Safety First makes aid workers aware of the risks they may encounter while working in the field and what they can do to minimise them.

This book introduces an innovative and high-efficiency technology for mechanical energy harvesting. The book covers the history and development of triboelectric nanogenerators, basic structures, working principles, performance characterization, and potential applications. It is divided into three parts: Part A illustrates the fundamental working modes of triboelectric nanogenerators with their prototype structures and theoretical analysis; Part B and Part C introduce two categories of applications, namely self-powered systems and self-powered active sensors. The book will be an ideal guide to scientists and engineers beginning to study triboelectric nanogenerators or wishing to deepen their knowledge of the field. Readers will be able to place the technical details about this technology in context, and acquire the necessary skills to reproduce the experimental setups for fabrication and measurement.

"The family elements in the story - the real struggles with marriage, raising a family, making a living, and just trying to enjoy life - have broadened the book's appeal to a wider audience, primarily women who are not into technology." **DARK END OF SPECTRUM** will make you think twice before turning on your cell phone

or PDA! **DARK END OF THE SPECTRUM** is a frighteningly plausible and headline ripping tale of the real threats that loom in cyberspace and beyond with a Michael Crichton realism. Based on the author's years of research into the hacker culture. **DARK END OF THE SPECTRUM** is a thriller that will connect with everyone with a cell phone, PDA or wireless device. When a group of digital terrorists known as ICER take over the US power grid and the cell phone network, they give the government an ultimatum - bomb the borders of Afghanistan and Pakistan with nuclear weapons to put an end to Al-Quada or they will start downing commercial airliners. When the government refuses, ICER destroys most of the downed aircraft in airports all over the country. When ICER sends a pulse that will kill millions on the East Coast, only security expert Dan Riker can stop them, but ICER has kidnapped Dan's family. Will Dan save his family or will millions die?

"What the College Board doesn't want you to know" --Cover.

"Illuminate[s] the lives behind the current debates about Latino immigration." —The New York Times Book Review
When fifteen-year-old Maribel Rivera sustains a terrible injury, the Riveras leave behind a comfortable life in Mexico and risk everything to come to the United States so that Maribel can have the care she needs. Once they arrive, it's not long before Maribel attracts the attention of Mayor Toro, the son of one of their new neighbors, who sees a kindred spirit in this beautiful, damaged outsider. Their love story sets in motion events that will have profound repercussions for everyone involved. Here *Henríquez* seamlessly interweaves the story of these star-crossed lovers, and of the Rivera and Toro families, with the testimonials of

men and women who have come to the United States from all over Latin America. The Book of Unknown Americans is a stunning novel of hopes and dreams, guilt and love—a book that offers a resonant new definition of what it means to be American. Named a New York Times and Washington Post Notable Book, an NPR Great Read, The Daily Beast's Novel of the Year, and a Mother Jones, Oprah.com, School Library Journal, and BookPage Best Book of the Year

INTRODUCTION TO MECHATRONICS AND MEASUREMENT SYSTEMS provides comprehensive and accessible coverage of the evolving field of mechatronics for mechanical, electrical and aerospace engineering majors. The authors present a concise review of electrical circuits, solid-state devices, digital circuits, and motors- all of which are fundamental to understanding mechatronic systems. Mechatronics design considerations are presented throughout the text, and in "Design Example" features. The text's numerous illustrations, examples, class discussion items, and chapter questions & exercises provide an opportunity to understand and apply mechatronics concepts to actual problems encountered in engineering practice. This text has been tested over several years to ensure accuracy. A text web site is available at <http://www.engr.colostate.edu/~dga/mechatronics/> and contains numerous supplemental resources.

Chapter 1: The Principles of Switching Power Conversion Chapter 2: DC-DC Converter Design and Magnetics Chapter 3: Off-line Converter Design and Magnetics Chapter 4: The Topology FAQ Chapter 5: Optimal Core Selection Chapter 6: Component Ratings, Stresses, Reliability and Life Chapter 7: Optimal Power Components Selection Chapter 8: Conduction

and Switching Losses Chapter 9: Discovering New Topologies Chapter 10: Printed Circuit Board Layout Chapter 11: Thermal Management Chapter 12: Feedback Loop Analysis and Stability Chapter 13: Paralleling, Interleaving and Sharing Chapter 14: The Front-End of AC-DC Power Supplies Chapter 15: DM and CM Noise in Switching Power Supplies Chapter 16: Fixing EMI across the Board Chapter 17: Input Capacitor and Stability Chapter 18: The Math behind the Electromagnetic Puzzle Chapter 19: Solved Examples Appendix A.

This junior level electronics text provides a foundation for analyzing and designing analog and digital electronics throughout the book. Extensive pedagogical features including numerous design examples, problem solving technique sections, Test Your Understanding questions, and chapter checkpoints lend to this classic text. The author, Don Neamen, has many years experience as an Engineering Educator. His experience shines through each chapter of the book, rich with realistic examples and practical rules of thumb. The Third Edition continues to offer the same hallmark features that made the previous editions such a success. Extensive Pedagogy: A short introduction at the beginning of each chapter links the new chapter to the material presented in previous chapters. The objectives of the chapter are then presented in the Preview section and then are listed in bullet form for easy reference. Test Your Understanding Exercise Problems with provided answers have all been updated. Design Applications are included at the end of chapters. A specific electronic design related to that chapter is presented. The various stages in the design of an electronic thermometer are explained throughout the text. Specific Design Problems and Examples are high-

lighted throughout as well. High Performance Silicon Imaging covers the fundamentals of silicon image sensors, with a focus on existing performance issues and potential solutions. The book considers several applications for the technology as well. Silicon imaging is a fast growing area of the semiconductor industry. Its use in cell phone cameras is already well established, and emerging applications include web, security, automotive, and digital cinema cameras. Part one begins with a review of the fundamental principles of photosensing and the operational principles of silicon image sensors. It then focuses in on charged coupled device (CCD) image sensors and complementary metal oxide semiconductor (CMOS) image sensors. The performance issues considered include image quality, sensitivity, data transfer rate, system level integration, rate of power consumption, and the potential for 3D imaging. Part two then discusses how CMOS technology can be used in a range of areas, including in mobile devices, image sensors for automotive applications, sensors for several forms of scientific imaging, and sensors for medical applications. High Performance Silicon Imaging is an excellent resource for both academics and engi-

neers working in the optics, photonics, semiconductor, and electronics industries. Covers the fundamentals of silicon-based image sensors and technical advances, focusing on performance issues. Looks at image sensors in applications such as mobile phones, scientific imaging, TV broadcasting, automotive, and biomedical applications.

Very small aperture terminals (VSATs) enable satellite transmission to provide data, voice and video communications directly to the user's premises. Networks using VSATs can be set up or changed rapidly in response to varying demands and as such look set to figure highly in the communications of the next century. In this long-awaited book, Everett collects 28 major contributions to describe the key technology, representative leading systems, technical issues and also consider the economics and regulations. "This book uses a flexible learning framework to explain the best ways of creating a meaningful learning environment. This framework consists of eight factors - institutional, management, technological, pedagogical, ethical, interface design, resource support, and evaluation; a systematic understanding of these factors creates successful flexible learning environments"--Provided by publisher.