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Orthotics and Prosthetics in Rehabilitation E-Book - Kevin C Chui 2019-07-06

Gain a strong foundation in the field of orthotics and prosthetics! Orthotics and Prosthetics in Rehabilitation, 4th Edition is a clear, comprehensive, one-stop resource for clinically relevant rehabilitation information and application. Divided into three sections, this text gives you a foundation in orthotics and prosthetics, clinical applications when working with typical and special populations, and an overview of amputation and prosthetic limbs. This edition has been updated with coverage of the latest technology and materials in the field, new evidence on effectiveness and efficacy of interventions and cognitive workload associated usage along with enhanced color photographs and case studies - it's a great resource for students and rehabilitation professionals alike. Comprehensive coverage addresses rehabilitation in a variety of environments, including acute care, long-term care and home health care, and outpatient settings. Book organized into three parts corresponding with typical patient problems and clinical decision-making. The latest evidence-based research throughout text help you learn clinical-decision making skills. Case studies present real-life scenarios that demonstrate how key concepts apply to clinical decision-making and evidence-based practice. World Health Organization disablement model (ICF) incorporated to help you learn how to match patient's limitations with the best clinical treatment. Multidisciplinary approach in a variety of settings demonstrates how physical therapists can work with the rest of the healthcare team to provide high quality care in orthotic/prosthetic rehabilitation. The latest equipment and technology throughout text addresses the latest options in prosthetics and orthotics rehabilitation. Authoritative information from the Guide to Physical Therapist Practice, 2nd Edition is incorporated throughout. A wealth of tables and boxes highlight vital information for quick reference and ease of use. NEW! Color photographs improve visual appeal and facilitates learning. NEW! Increased evidence-based content includes updated citations; coverage of new technology such as microprocessors, microcontrollers, and integrated load cells; new evidence on the effectiveness and efficacy of interventions; and new evidence on cognitive workload usage. NEW! Authors Kevin K Chui, PT, DPT, PhD, GCS, OCS, CEEAA, FAAOMPT and Sheng-Che (Steven) Yen, PT, PhD add their expertise to an already impressive list of contributors.

Formal Modeling and Verification of Cyber-Physical Systems - Rolf Drechsler 2015-06-05

This book presents the lecture notes of the 1st Summer School on Methods and Tools for the Design of Digital Systems, 2015, held in Bremen, Germany. The topic of the summer school was devoted to modeling and verification of cyber-physical systems. This covers several aspects of the field, including hybrid systems and model checking, as well as applications in robotics and aerospace systems. The main chapters have been written by leading scientists, who present their field of research, each providing references to introductory material as well as latest scientific advances and future research directions. This is complemented by short papers submitted by the participating PhD students.

Advances in Synchronization of Coupled Fractional Order Systems - Rafael Martínez-Guerra 2018-07-23

After a short introduction to the fundamentals, this book provides a detailed account of major advances in applying fractional calculus to dynamical systems. Fractional order dynamical systems currently

continue to gain further importance in many areas of science and engineering. As with many other approaches to mathematical modeling, the first issue to be addressed is the need to couple a definition of the fractional differentiation or integration operator with the types of dynamical systems that are analyzed. As such, for the fundamentals the focus is on basic aspects of fractional calculus, in particular stability analysis, which is required to tackle synchronization in coupled fractional order systems, to understand the essence of estimators for related integer order systems, and to keep track of the interplay between synchronization and parameter observation. This serves as the common basis for the more advanced topics and applications presented in the subsequent chapters, which include an introduction to the 'Immersion and Invariance' (I&I) methodology, the masterslave synchronization scheme for partially known nonlinear fractional order systems, Fractional Algebraic Observability (FAO) and Fractional Generalized quasi-Synchronization (FGqS) to name but a few. This book is intended not only for applied mathematicians and theoretical physicists, but also for anyone in applied science dealing with complex nonlinear systems.

Power and Energy - Richard Kong 2015-05-06

Power and Energy contains 86 selected papers from the International Conference on Power and Energy (CPE 2014, Shanghai, China, 29-30 November 2014), and presents a wide range of topics:- Energy management, planning and policy-making- Energy technologies and environment- Energy prospects- Conventional and renewable power generation- Power system man

Future Spacecraft Propulsion Systems and Integration - Paul A. Czysz 2017-08-30

The updated and expanded third edition of this book focuses on the multi-disciplinary coupling between flight-vehicle hardware alternatives and enabling propulsion systems. It discusses how to match near-term and far-term aerospace vehicles to missions and provides a comprehensive overview of the subject, directly contributing to the next-generation space infrastructure, from space tourism to space exploration. This holistic treatment defines a mission portfolio addressing near-term to long-term space transportation needs covering sub-orbital, orbital and escape flight profiles. In this context, a vehicle configuration classification is introduced covering alternatives starting from the dawn of space access. A best-practice parametric sizing approach is introduced to correctly design the flight vehicle for the mission. This technique balances required mission with the available vehicle solution space and is an essential capability sought after by technology forecasters and strategic planners alike.

Social Issues in Sport - Ron Woods 2015-11-06

Social Issues in Sport, Third Edition, explores common questions and issues about sport and its relation to society through various sociological and cultural lenses. Author Ronald Woods draws on a lifetime in sport as a participant, observer, fan, teacher, coach, administrator, and critic to explore historical perspectives and complex relationships that have emerged between sport and our modern society. The text's engaging writing style, full-color design, and ample learning tools keep students engaged. Social Issues in Sport, Third Edition, remains grounded in practical application and follows the framework of the previous editions to provide social theories through which students may examine real-world issues. Updated statistical information allows students to analyze trends in participation, popularity, gender, race, and class as they relate to sport. The third edition also features the following enhancements: •

New "Applying Social Theory" activities in each chapter that foster an understanding of social theories that ground the subject area • Updated "Activity Time-Out," "Expert's View," "Pop Culture," and "In the Arena With . . ." sidebars that offer a contemporary context to which students can apply the concepts in the text • Increased emphasis on emerging issues such as sport for development and peace as well as the growing role of electronic media • Updated instructor ancillaries that provide assistance in lecture preparation and give instructors new ways to engage students and reinforce concepts found throughout the text

Social Issues in Sport, Third Edition, is divided into four parts, maintaining the student-friendly format and accessibility of previous editions. Part I presents the framework for study through defining terms and presenting six crucial social theories that are used throughout the rest of the text. Part II addresses various forms of participation in sport, from spectator to participant, recreational to professional, and explores sport marketing and commercialization, as well as the close relationship between sport and media. In part III, the role of sport programs and player development, from youth to intercollegiate, as well as the crucial role of sport coach and its many responsibilities. Part IV delves into sport and culture, focusing on social classifications and their powerful effects on sport participation. Ancillary materials are available to aid instructors using this text in the classroom. An updated instructor guide includes chapter summaries, student objectives, chapter outlines, and additional student activities. A test package, chapter quizzes, and presentation package provide instructors with support for lecture preparation and tools to ensure that students remain engaged. *Social Issues in Sport, Third Edition*, provides the foundations for examining the multifaceted roles of sport and physical activity in society and for studying sport from a critical perspective. The information and many activities used throughout the text invite students to understand and evaluate the sociocultural issues raised by sport and relate these themes to their own lives. Through this in-depth examination of sociocultural issues, students will be able to understand and appreciate the development of sport as a part and reflection of the development of society.

Technological Innovation for Cyber-Physical Systems - Luis M. Camarinha-Matos 2016-03-24

This book constitutes the refereed proceedings of the 7th IFIP WG 5.5/SOCOLNET Advanced Doctoral Conference on Computing, Electrical and Industrial Systems, DoCEIS 2016, held in Costa de Caparica, Portugal, in April 2016. The 53 revised full papers were carefully reviewed and selected from 112 submissions. The papers present selected results produced in engineering doctoral programs and focus on research, development, and application of cyber-physical systems. Research results and ongoing work are presented, illustrated and discussed in the following areas: enterprise collaborative networks; ontologies; Petri nets; manufacturing systems; biomedical applications; intelligent environments; control and fault tolerance; optimization and decision support; wireless technologies; energy: smart grids, renewables, management, and optimization; bio-energy; and electronics.

Computer Aided Verification - Shuvendu K. Lahiri 2020-07-01

The open access two-volume set LNCS 12224 and 12225 constitutes the refereed proceedings of the 32st International Conference on Computer Aided Verification, CAV 2020, held in Los Angeles, CA, USA, in July 2020.* The 43 full papers presented together with 18 tool papers and 4 case studies, were carefully reviewed and selected from 240 submissions. The papers were organized in the following topical sections: Part I: AI verification; blockchain and Security; Concurrency; hardware verification and decision procedures; and hybrid and dynamic systems. Part II: model checking; software verification; stochastic systems; and synthesis. *The conference was held virtually due to the COVID-19 pandemic.

A-Z of Learning Outside the Classroom - Russell Grigg 2016-04-07

Learning outside the classroom has been high on the political agenda for several years now, but recent Ofsted reports indicate that this can be confined to termly or yearly trips, as an 'extra'. This book provides a convincing and readable promotion of regular outdoor learning. It draws on relevant research to reinforce that working in 'real' environments benefits children's all-round development - cognitively, emotionally, physically and spiritually. This is illustrated through a wide range of engaging activities, from how to make a scarecrow, to interpreting a painting in a gallery, from getting the best from a library visit, to how best to attack a medieval castle. This practical guide for busy teachers will help them to link what they do in and out of the class. It's a must for every staffroom bookshelf.

Reverse Sarcopenia - Joseph Tieri 2019-07-26

Take control of your physical and brain health with low-level strength training We all know that we lose muscle mass as we age. But did you know that sarcopenic obesity (a.k.a. being "skinny fat") is linked to increasing your risk of developing dementia and/or Alzheimer's? Not only is losing muscle bad for your body, it's also bad for your brain. Don't let muscle deterioration negatively affect your future. It's time to take your physical and brain health into your own hands with strength training. This book is full of tips, techniques, and easy-to-follow strength-training routines to fight sarcopenia. From beginners to those already comfortable using weights, this book has solutions for everyone. Lose fat, improve muscle tone, and strengthen bones while guarding against sarcopenia and its negative impact on your body and your brain. This book makes it easy to regain the muscle mass you need to live a healthier and longer life.

Regional Analysis of Time-Fractional Diffusion Processes - Fudong Ge 2018-01-08

This monograph provides an accessible introduction to the regional analysis of fractional diffusion processes. It begins with background coverage of fractional calculus, functional analysis, distributed parameter systems and relevant basic control theory. New research problems are then defined in terms of their actuation and sensing policies within the regional analysis framework. The results presented provide insight into the control-theoretic analysis of fractional-order systems for use in real-life applications such as hard-disk drives, sleep stage identification and classification, and unmanned aerial vehicle control. The results can also be extended to complex fractional-order distributed-parameter systems and various open questions with potential for further investigation are discussed. For instance, the problem of fractional order distributed-parameter systems with mobile actuators/sensors, optimal parameter identification, optimal locations/trajectory of actuators/sensors and regional actuation/sensing configurations are of great interest. The book's use of illustrations and consistent examples throughout helps readers to understand the significance of the proposed fractional models and methodologies and to enhance their comprehension. The applications treated in the book run the gamut from environmental science to national security. Academics and graduate students working with cyber-physical and distributed systems or interested in the applications of fractional calculus will find this book to be an instructive source of state-of-the-art results and inspiration for further research.

Climate Change and Ocean Governance - Paul G. Harris 2019-02-21

Offers a multidisciplinary edited volume on policy dimensions of climate change for the world's oceans, for researchers, policymakers and activists.

Parenting Matters - National Academies of Sciences, Engineering, and Medicine 2016-11-21

Decades of research have demonstrated that the parent-child dyad and the environment of the family—which includes all primary caregivers—are at the foundation of children's well-being and healthy development. From birth, children are learning and rely on parents and the other caregivers in their lives to protect and care for them. The impact of parents may never be greater than during the earliest years of life, when a child's brain is rapidly developing and when nearly all of her or his experiences are created and shaped by parents and the family environment. Parents help children build and refine their knowledge and skills, charting a trajectory for their health and well-being during childhood and beyond. The experience of parenting also impacts parents themselves. For instance, parenting can enrich and give focus to parents' lives; generate stress or calm; and create any number of emotions, including feelings of happiness, sadness, fulfillment, and anger. Parenting of young children today takes place in the context of significant ongoing developments. These include: a rapidly growing body of science on early childhood, increases in funding for programs and services for families, changing demographics of the U.S. population, and greater diversity of family structure. Additionally, parenting is increasingly being shaped by technology and increased access to information about parenting. *Parenting Matters* identifies parenting knowledge, attitudes, and practices associated with positive developmental outcomes in children ages 0-8; universal/preventive and targeted strategies used in a variety of settings that have been effective with parents of young children and that support the identified knowledge, attitudes, and practices; and barriers to and facilitators for parents' use of practices that lead to healthy child outcomes as well as their participation in effective programs and services. This report makes recommendations directed at an array of stakeholders, for promoting the

wide-scale adoption of effective programs and services for parents and on areas that warrant further research to inform policy and practice. It is meant to serve as a roadmap for the future of parenting policy, research, and practice in the United States.

Security of Industrial Control Systems and Cyber Physical Systems - Adrien Bécue 2016-06-17

This book constitutes the refereed proceedings of the First Conference on Cybersecurity of Industrial Control Systems, CyberICS 2015, and the First Workshop on the Security of Cyber Physical Systems, WOS-CPS 2015, held in Vienna, Austria, in September 2015 in conjunction with ESORICS 2015, the 20th annual European Symposium on Research in Computer Security. The 6 revised full papers and 2 short papers of CyberICS 2015 presented together with 3 revised full papers of WOS-CPS 2015 were carefully reviewed and selected from 28 initial submissions. CyberICS 2015 focuses on topics covering ICSs, including cyber protection and cyber defense of SCADA systems, plant control systems, engineering workstations, substation equipment, programmable logic controllers, PLCs, and other industrial control system. WOS-CPS 2015 deals with the Security of Cyber Physical Systems, that exist everywhere around us, and range in size, complexity and criticality, from embedded systems used in smart vehicles, to SCADA systems in smart grids to control systems in water distribution systems, to smart transportation systems etc.

Organization and Administration of Physical Education - Greenberg, Jayne 2018-11-30

If you want to know how to be the best, you learn from the best. Two SHAPE America Physical Education Administrators of the Year share what it takes to be an outstanding administrator in Organization and Administration of Physical Education: Theory and Practice. Jayne Greenberg and Judy LoBianco, veteran leaders in the field with decades of successful administration experience, head a sterling list of contributors who have taught at the elementary, middle school, high school, and college levels in urban, suburban, and rural settings. Together, these contributors expound on the roles and responsibilities of physical education administrators through both theoretical and practical lenses.

Wireless MEMS Networks and Applications - Deepak Uttamchandani 2016-08-30

Wireless MEMS Networks and Applications reviews key emerging applications of MEMS in wireless and mobile networks. This book covers the different types of wireless MEMS devices, also exploring MEMS in smartphones, tablets, and the MEMS used for energy harvesting. The book reviews the range of applications of wireless MEMS networks in manufacturing, infrastructure monitoring, environmental monitoring, space applications, agricultural monitoring for food safety, health applications, and systems for smart cities. Focuses on the use of MEMS in the emerging area of wireless applications Contains comprehensive coverage of the range of applications of MEMS for wireless networks Presents an international range of expert contributors who identify key research in the field

OUCH! The Pain of Modern Civilization - Dr. Ajay Issar 2020-04-17

Isn't it ironic that information about healthy living is in such abundance yet people are more confused than ever? In excess of 80% of today's healthcare costs are spent treating chronic diseases like diabetes, hypertension, high cholesterol, heart disease, cancer, and obesity. This is a function of our modern society, characterized by Overnutrition, Under-activity, Circadian rhythm disruption, and a Hectic and stressful lifestyle—or OUCH—unlike any we've seen before. In OUCH! The Pain of Modern Civilization, authors Dr. Ajay Issar and Alka Issar offer a four-factor model of chronic disease that not only links these behaviours with their physical consequences, but explains in detail the means of assailing them. Here is a practical, personalized approach aimed at health promotion and shared compellingly by way of case studies, recipes, and advice for exercise and creating structure in your day. This book clarifies common myths about chronic disease and extends tools readers can employ in their own war against OUCH. OUCH! The Pain of Modern Civilization is unique for its consideration of the person as a whole and its prescription of timeless and proven solutions for optimal health. This book is for anyone who cares about their well-being, including individuals who are already suffering from a chronic disease and those who are keen to avoid them.

Human-Robot Interaction Control Using Reinforcement Learning - Wen Yu 2021-10-06

A comprehensive exploration of the control schemes of human-robot interactions In Human-Robot Interaction Control Using Reinforcement

Learning, an expert team of authors delivers a concise overview of human-robot interaction control schemes and insightful presentations of novel, model-free and reinforcement learning controllers. The book begins with a brief introduction to state-of-the-art human-robot interaction control and reinforcement learning before moving on to describe the typical environment model. The authors also describe some of the most famous identification techniques for parameter estimation. Human-Robot Interaction Control Using Reinforcement Learning offers rigorous mathematical treatments and demonstrations that facilitate the understanding of control schemes and algorithms. It also describes stability and convergence analysis of human-robot interaction control and reinforcement learning based control. The authors also discuss advanced and cutting-edge topics, like inverse and velocity kinematics solutions, H2 neural control, and likely upcoming developments in the field of robotics. Readers will also enjoy: A thorough introduction to model-based human-robot interaction control Comprehensive explorations of model-free human-robot interaction control and human-in-the-loop control using Euler angles Practical discussions of reinforcement learning for robot position and force control, as well as continuous time reinforcement learning for robot force control In-depth examinations of robot control in worst-case uncertainty using reinforcement learning and the control of redundant robots using multi-agent reinforcement learning Perfect for senior undergraduate and graduate students, academic researchers, and industrial practitioners studying and working in the fields of robotics, learning control systems, neural networks, and computational intelligence, Human-Robot Interaction Control Using Reinforcement Learning is also an indispensable resource for students and professionals studying reinforcement learning.

Medical-Surgical Nursing - Donna D. Ignatavicius 2015-02-09

Using a unique collaborative care approach to adult health nursing, Medical-Surgical Nursing: Patient-Centered Collaborative Care, 8th Edition covers the essential knowledge you need to succeed at the RN level of practice. Easy-to-read content includes evidence-based treatment guidelines, an enhanced focus on QSEN competencies, and an emphasis on developing clinical judgment skills. This edition continues the book's trendsetting tradition with increased LGBTQ content and a new Care of Transgender Patients chapter. Written by nursing education experts Donna Ignatavicius and M. Linda Workman, this bestselling text also features NCLEX® Exam-style challenge questions to prepare you for success on the NCLEX Exam. Cutting-edge coverage of the latest trends in nursing practice and nursing education prepares you not just for today's nursing practice but also for tomorrow's. UNIQUE! Collaborative care approach organizes all medical, surgical, nursing, and other interventions within the framework of the nursing process, mirroring the nurse's role in the coordination/management of care in the real world of medical-surgical nursing. UNIQUE! A focus on nursing concepts relates concepts learned in Nursing Fundamentals with the disorders you will study in Medical-Surgical Nursing. Easy to read, direct-address writing style makes this one of the most readable medical-surgical nursing textbooks available. UNIQUE! A focus on QSEN emphasizes patient safety and evidence-based practice with Nursing Safety Priority boxes including Drug Alerts, Critical Rescues, and Action Alerts. UNIQUE! Emphasis on clinical judgment teaches you to develop skills in clinical reasoning and clinical decision-making when applying concepts to clinical situations, with Clinical Judgment Challenge questions throughout the chapters. An emphasis on prioritization stresses the most important patient problems and nursing interventions, with patient problems presented in a single prioritized list of nursing diagnoses and collaborative problems. UNIQUE! NCLEX preparation tools include chapter-opening Learning Outcomes and chapter-ending Get Ready for the NCLEX Examination! sections organized by NCLEX® Client Needs Categories, plus NCLEX Examination Challenge questions, with an answer key in the back of the book and on the Evolve companion website. Practical learning aids include NCLEX Examination Challenges, Clinical Judgment Challenges, Best Practice for Patient Safety & Quality Care charts, common examples of drug therapy, concept maps, laboratory profiles, and more. A clear alignment with the language of clinical practice reflects the real world of nursing practice with NANDA diagnostic labels where they make sense, and non-NANDA diagnostic labels when these are more common descriptions of patient problems. Student Resources on an Evolve companion website help you prepare for class, clinicals, or lab with video and audio clips, animations, case studies, a concept map creator, NCLEX exam-style review questions, and more. UNIQUE! Concentration on essential knowledge for the RN level

of medical-surgical nursing practice focuses your attention on need-to-know content to pass the NCLEX Examination and practice safety as a beginning nurse. NEW! Enhanced focus on QSEN (Quality and Safety Education for Nurses) competencies includes new icons identifying QSEN competency material and new Quality Improvement boxes describing projects that made a dramatic difference in patient outcomes. UPDATED learning features include an expanded emphasis on developing clinical judgment skills; on prioritization, delegation, and supervision skills; on long-term care issues; and on preparation for the NCLEX® Examination and consistency with the 2013 NCLEX-RN® Test Plan. NEW! UNIQUE! Care of Transgender Patients chapter discusses the unique health care needs and issues specific to the transgender community. Improved delineation of NANDA-I nursing diagnoses clearly differentiate NANDA diagnoses from collaborative problems. NEW photos and drawings show patient care skills as well as the latest in nursing education and practice.

Traumatized - Kati Morton 2021-09-07

An accessible guide to understand what trauma is, how PTSD is diagnosed, being aware that it can have a late onset, what can happen if it goes untreated--and how social media can be triggering our trauma Recovery from trauma and PTSD is an especially vital topic these days. Trauma is emotional stress that can stem from a wide variety of upsetting experiences, leaving us feeling anxious, weighed down by negative emotions or memories, or feeling like we lack security. No one's experience and recovery from it is the same. In *Traumatized*, as both a licensed clinical therapist and YouTube creator, Morton shares a unique perspective on trauma in the modern age, weaving the link between trauma and social media throughout the book--both the positive (how social media promotes mental health awareness) and the dark side of how social media can spread trauma. What social media platforms or accounts are detrimental to our mental health? How can we start paying attention to how we interact with them? What are the best ways to limit the amount of time we spend on certain sites or even unfollow accounts that seem to trigger that trauma response? *Traumatized* shares tools to manage what we (and our children) can see online.

Online Experimentation: Emerging Technologies and IoT - Maria Teresa Restivo 2012-02-12

Book describes online experimentation, using fundamentally emergent technologies to build the resources and considering the context of IoT. Online Experimentation: Emerging Technologies and IoT is suitable for all who is involved in the development design

The Science and Philosophy of Martial Arts - Alex W. Tong 2022-02-22

Through the lenses of Shotokan Karate and biomedicine, sensei and biomedical scientist Alex W. Tong shows readers how body, mind, and spirit can be developed through martial arts practice. Through the practice of martial arts, a person can realize their full potential--not only in body, but in mind and spirit. *The Science and Philosophy of Martial Arts* shows readers how. Author, sensei, and biomedical scientist Alex W. Tong delves into the physical, mental, and spiritual components of martial arts and integrates contemporary sports psychology, kinesiology, and neuroscience into a nuanced and illuminating understanding of what martial arts practice can be. Structured into three sections, Tong discusses: • The Mind: The dao of martial arts, mental tranquility, contemporary neuroscience, and warming up the brain • The Body: Posture and stance, breathing in martial arts, and the physics of mastery and effort • The Spirit: Soul, spirit, and moving zen; nature and manifestations of the spirit Each section includes observations on martial arts origins, physiology, and tangible results on martial arts training. Blending traditional and contemporary approaches, knowledge, and research, *The Science and Philosophy of Martial Arts* builds a vision of practice that elevates physical performance, awareness, decisiveness, and strength of spirit.

Routledge Handbook of Physical Activity Policy and Practice - Joe Pigginn 2017-12-22

Physical activity, inactivity and their relationship to health are serious concerns for governments around the world. This is the first book to critically examine the policy and practice of physical activity from a multi-disciplinary, social-scientific perspective. Moving beyond the usual biophysical and epidemiological approaches, it defines and explores the key themes that are shaping the global physical activity debate. Unrivalled in its scale and scope, it presents the latest data on physical activity from around the world, including case studies from Europe, North and South America, Africa and Asia. Drawing on social, economic and behavioural sciences, it covers contexts from the global to the local

and introduces the dominant ideas which inform the study of physical activity. Its 41 chapters examine the use of different forms of evidence in policymaking, the role of organisations in advocating physical activity, and the practical realities of public health interventions. The *Routledge Handbook of Physical Activity Policy and Practice* is a landmark publication for all students, academics, policymakers and practitioners interested in the social-scientific study of sport, exercise, physical activity and public health.

Opportunities in Intense Ultrafast Lasers - National Academies of Sciences, Engineering, and Medicine 2018-01-31

The laser has revolutionized many areas of science and society, providing bright and versatile light sources that transform the ways we investigate science and enables trillions of dollars of commerce. Now a second laser revolution is underway with pulsed petawatt-class lasers (1 petawatt: 1 million billion watts) that deliver nearly 100 times the total world's power concentrated into a pulse that lasts less than one-trillionth of a second. Such light sources create unique, extreme laboratory conditions that can accelerate and collide intense beams of elementary particles, drive nuclear reactions, heat matter to conditions found in stars, or even create matter out of the empty vacuum. These powerful lasers came largely from U.S. engineering, and the science and technology opportunities they enable were discussed in several previous National Academies' reports. Based on these advances, the principal research funding agencies in Europe and Asia began in the last decade to invest heavily in new facilities that will employ these high-intensity lasers for fundamental and applied science. No similar programs exist in the United States. *Opportunities in Intense Ultrafast Lasers* assesses the opportunities and recommends a path forward for possible U.S. investments in this area of science.

Goodman and Fuller's Pathology E-Book - Catherine C. Goodman 2020-10-09

The only pathology textbook written specifically for physical therapy, this edition continues to provide practical and easy access to information on specific diseases and conditions as they relate to physical therapy practice. Coverage includes guidelines, precautions, and contraindications for interventions with patients who have musculoskeletal or neuromuscular problems, as well as other medical conditions such as diabetes or heart disease. Logically organized content offers at-a-glance access to essential information on common illnesses, diseases, adverse drug effects, organ transplantation, laboratory values, and more to ensure the most reliable and effective physical therapy for patients. Up-to-date coverage with contributions from more than 100 content experts in pathology and physical therapy. Revised content throughout provides the most current information required to be an effective practitioner. Full-color interior design, photos, and illustrations visually reinforce key concepts. A Therapist's Thoughts offers personal and clinical insights from experienced therapists specializing in cancer, diabetes, cystic fibrosis, women's health, lymphedema, psychological problems, and much more. Special Implications for the Therapist boxes provide information and ideas to consider when formulating a plan of care that addresses precautions, contraindications, and best practice specific to physical therapy. Current information on conditions, medical testing and treatment, and practice models keeps students up to date on the latest research findings and recent changes in the field. Key information presented in an at-a-glance format is organized by body system for easy reference. Basic science information addresses the clinical implications of disease within the rehabilitation process, covering common illnesses and diseases, adverse effects of drugs, organ transplantation, laboratory values, and much more. Coverage includes updated information on standard precautions. Separate chapter addresses laboratory tests and values that are important in physical therapy practice. Separate appendix provides guidelines for activity and exercise. A focus on health promotion and disease prevention is featured throughout the text.

Adapt and Be Adept - Terry L. Anderson 2021-04-01

How can markets help us adapt to the challenges of climate change? Editor Terry L. Anderson brings together this collection of essays featuring the work of nine leading policy analysts, who argue that market forces are just as important as government regulation in shaping climate policy—and should be at the heart of our response to helping societies adapt to climate change. Anderson notes in his introduction that most current climate policies such as the Paris Agreement require hard-to-enforce collective action and focus on reducing or mitigating greenhouse gases rather than adapting to their negative effects. Adaptive actions can typically deliver much more, faster and more cheaply than any realistic

climate policy. The authors tackle a range of issues: the hidden costs of renewable energy sources, the political obstacles surrounding climate change policy, insurance and financial instruments for pricing risk of exposure to the effects of climate change, and more. Reliance on emerging renewable energies and a carbon tax are not enough to prevent the effects of global warming, they argue. We must encourage more private action and market incentives to adapt to a rapidly changing climate.

Designing and Teaching Fitness Education Courses - Jayne Debra Greenberg 2021-08-10

Helps physical educators develop and implement fitness education courses in their curricula. Includes pacing guides, which act as a teacher's blueprint throughout a semester, and offers 139 video clips and 211 instructional photos that show the activities, all of which require no equipment.

Piecewise Affine Control: Continuous-Time, Sampled-Data, and Networked Systems - Luis Rodrigues 2019-11-06

Engineering systems operate through actuators, most of which will exhibit phenomena such as saturation or zones of no operation, commonly known as dead zones. These are examples of piecewise-affine characteristics, and they can have a considerable impact on the stability and performance of engineering systems. This book targets controller design for piecewise affine systems, fulfilling both stability and performance requirements. The authors present a unified computational methodology for the analysis and synthesis of piecewise affine controllers, taking an approach that is capable of handling sliding modes, sampled-data, and networked systems. They introduce algorithms that will be applicable to nonlinear systems approximated by piecewise affine systems, and they feature several examples from areas such as switching electronic circuits, autonomous vehicles, neural networks, and aerospace applications. Piecewise Affine Control: Continuous-Time, Sampled-Data, and Networked Systems is intended for graduate students, advanced senior undergraduate students, and researchers in academia and industry. It is also appropriate for engineers working on applications where switched linear and affine models are important.

The SAGE Handbook of Outdoor Play and Learning - Tim Waller 2017-06-19

A coordinated and comprehensive volume of international research on this subject edited by members of the well-established European Early Childhood Education Research Association Outdoor Play and Learning SIG (OPAL).

Official Gazette of the United States Patent and Trademark Office - 2006

Reducing Fuel Consumption and Greenhouse Gas Emissions of Medium- and Heavy-Duty Vehicles, Phase Two - National Academies of Sciences, Engineering, and Medicine 2020-05-15

Medium- and heavy-duty trucks, motor coaches, and transit buses - collectively, "medium- and heavy-duty vehicles", or MHDVs - are used in every sector of the economy. The fuel consumption and greenhouse gas emissions of MHDVs have become a focus of legislative and regulatory action in the past few years. This study is a follow-on to the National Research Council's 2010 report, Technologies and Approaches to Reducing the Fuel Consumption of Medium- and Heavy-Duty Vehicles. That report provided a series of findings and recommendations on the development of regulations for reducing fuel consumption of MHDVs. On September 15, 2011, NHTSA and EPA finalized joint Phase I rules to establish a comprehensive Heavy-Duty National Program to reduce greenhouse gas emissions and fuel consumption for on-road medium- and heavy-duty vehicles. As NHTSA and EPA began working on a second round of standards, the National Academies issued another report, Reducing the Fuel Consumption and Greenhouse Gas Emissions of Medium- and Heavy-Duty Vehicles, Phase Two: First Report, providing recommendations for the Phase II standards. This third and final report focuses on a possible third phase of regulations to be promulgated by these agencies in the next decade.

Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World - Bruce Schneier 2015-03-02

"Bruce Schneier's amazing book is the best overview of privacy and security ever written."—Clay Shirky "Bruce Schneier's amazing book is the best overview of privacy and security ever written."—Clay Shirky Your cell phone provider tracks your location and knows who's with you. Your online and in-store purchasing patterns are recorded, and reveal if you're unemployed, sick, or pregnant. Your e-mails and texts expose your intimate and casual friends. Google knows what you're thinking because it saves your private searches. Facebook can determine your sexual

orientation without you ever mentioning it. The powers that surveil us do more than simply store this information. Corporations use surveillance to manipulate not only the news articles and advertisements we each see, but also the prices we're offered. Governments use surveillance to discriminate, censor, chill free speech, and put people in danger worldwide. And both sides share this information with each other or, even worse, lose it to cybercriminals in huge data breaches. Much of this is voluntary: we cooperate with corporate surveillance because it promises us convenience, and we submit to government surveillance because it promises us protection. The result is a mass surveillance society of our own making. But have we given up more than we've gained? In *Data and Goliath*, security expert Bruce Schneier offers another path, one that values both security and privacy. He brings his bestseller up-to-date with a new preface covering the latest developments, and then shows us exactly what we can do to reform government surveillance programs, shake up surveillance-based business models, and protect our individual privacy. You'll never look at your phone, your computer, your credit cards, or even your car in the same way again.

2017 Global Food Policy Report - International Food Policy Research Institute (IFPRI) 2017-03-23

IFPRI's flagship report reviews the major food policy issues, developments, and decisions of 2016, and highlights challenges and opportunities for 2017 at the global and regional levels. This year's report looks at the impact of rapid urban growth on food security and nutrition, and considers how food systems can be reshaped to benefit both urban and rural populations.

From Molecules to Living Organisms: an Interplay Between Biology and Physics - Eva Pebay-Peyroula 2016

The aim of this title is to familiarise the new generation of PhD students and postdoctoral fellows with the principles and methods of modern lattice field theory, which aims to resolve fundamental, non-perturbative questions about QCD without uncontrolled approximations.

Case-Smith's Occupational Therapy for Children and Adolescents - E-Book - Jane Clifford O'Brien 2019-09-26

The number one book in pediatric OT is back! Focusing on children from infancy to adolescence, Case-Smith's Occupational Therapy for Children and Adolescents, 8th Edition provides comprehensive, full-color coverage of pediatric conditions and treatment techniques in all settings. Its emphasis on application of evidence-based practice includes: eight new chapters, a focus on clinical reasoning, updated references, research notes, and explanations of the evidentiary basis for specific interventions. Coverage of new research and theories, new techniques, and current trends, with additional case studies, keeps you in-step with the latest advances in the field. Developmental milestone tables serve as a quick reference throughout the book! NEW! Eight completely new chapters cover Theory and Practice Models for Occupational Therapy With Children, Development of Occupations and Skills From Infancy Through Adolescence, Therapeutic Use of Self, Observational Assessment and Activity Analysis, Evaluation Interpretation, and Goal Writing, Documenting Outcomes, Neonatal Intensive Care Unit, and Vision Impairment. NEW! A focus on theory and principles Practice Models promote clinical reasoning. NEW! Emphasis on application of theory and frames of reference in practice appear throughout chapters in book. NEW! Developmental milestone tables serve as quick reference guides. NEW! Online materials included to help facilitate your understanding of what's covered in the text. NEW! Textbook is organized into six sections to fully describe the occupational therapy process and follow OTPF.

Gas Allocation Optimization Methods in Artificial Gas Lift - Ehsan Khomehchi 2016-12-31

This Brief offers a comprehensive study covering the different aspects of gas allocation optimization in petroleum engineering. It contains different methods of defining the fitness function, dealing with constraints and selecting the optimizer; in each chapter a detailed literature review is included which covers older and important studies as well as recent publications. This book will be of use for production engineers and students interested in gas lift optimization.

Medical-Surgical Nursing - E-Book - Donna D. Ignatavicius 2015-01-30

Using a unique collaborative care approach to adult health nursing, Medical-Surgical Nursing: Patient-Centered Collaborative Care, 8th Edition covers the essential knowledge you need to succeed at the RN level of practice. Easy-to-read content includes evidence-based treatment guidelines, an enhanced focus on QSEN competencies, and an emphasis on developing clinical judgment skills. This edition continues the book's trendsetting tradition with increased LGBTQ content and a new Care of

Transgender Patients chapter. Written by nursing education experts Donna Ignatavicius and M. Linda Workman, this bestselling text also features NCLEX® Exam-style challenge questions to prepare you for success on the NCLEX Exam. Cutting-edge coverage of the latest trends in nursing practice and nursing education prepares you not just for today's nursing practice but also for tomorrow's. UNIQUE! Collaborative care approach organizes all medical, surgical, nursing, and other interventions within the framework of the nursing process, mirroring the nurse's role in the coordination/management of care in the real world of medical-surgical nursing. UNIQUE! A focus on nursing concepts relates concepts learned in Nursing Fundamentals with the disorders you will study in Medical-Surgical Nursing. Easy to read, direct-address writing style makes this one of the most readable medical-surgical nursing textbooks available. UNIQUE! A focus on QSEN emphasizes patient safety and evidence-based practice with Nursing Safety Priority boxes including Drug Alerts, Critical Rescues, and Action Alerts. UNIQUE! Emphasis on clinical judgment teaches you to develop skills in clinical reasoning and clinical decision-making when applying concepts to clinical situations, with Clinical Judgment Challenge questions throughout the chapters. An emphasis on prioritization stresses the most important patient problems and nursing interventions, with patient problems presented in a single prioritized list of nursing diagnoses and collaborative problems. UNIQUE! NCLEX preparation tools include chapter-opening Learning Outcomes and chapter-ending Get Ready for the NCLEX Examination! sections organized by NCLEX® Client Needs Categories, plus NCLEX Examination Challenge questions, with an answer key in the back of the book and on the Evolve companion website. Practical learning aids include NCLEX Examination Challenges, Clinical Judgment Challenges, Best Practice for Patient Safety & Quality Care charts, common examples of drug therapy, concept maps, laboratory profiles, and more. A clear alignment with the language of clinical practice reflects the real world of nursing practice with NANDA diagnostic labels where they make sense, and non-NANDA diagnostic

labels when these are more common descriptions of patient problems. Student Resources on an Evolve companion website help you prepare for class, clinicals, or lab with video and audio clips, animations, case studies, a concept map creator, NCLEX exam-style review questions, and more. UNIQUE! Concentration on essential knowledge for the RN level of medical-surgical nursing practice focuses your attention on need-to-know content to pass the NCLEX Examination and practice safety as a beginning nurse.

Calendars of the United States House of Representatives and History of Legislation - United States. Congress. House 2013

The Genius of Athletes - Noel Brick 2021-06-08

A life-changing new kind of self-help that shows how we can all use the hard-won cognitive strategies of top competitors to power through any ambitious goal in any walk of life

NexGen Technologies for Mining and Fuel Industries (Volume I and II) - Pradeep K. Singh 2017-03-06

The papers in these two volumes were presented at the International Conference on "NexGen Technologies for Mining and Fuel Industries" [NxGnMiFu-2017] in New Delhi from February 15-17, 2017, organized by CSIR-Central Institute of Mining and Fuel Research, Dhanbad, India. The proceedings include the contributions from authors across the globe on the latest research on mining and fuel technologies. The major issues focused on are: Innovative Mining Technology, Rock Mechanics and Stability Analysis, Advances in Explosives and Blasting, Mine Safety and Risk Management, Computer Simulation and Mine Automation, Natural Resource Management for Sustainable Development, Environmental Impacts and Remediation, Paste Fill Technology and Waste Utilisation, Fly Ash Management, Clean Coal Initiatives, Mineral Processing and Coal Beneficiation, Quality Coal for Power Generation and Conventional and Non-conventional Fuels and Gases. This collection of contemporary articles contains unique knowledge, case studies, ideas and insights, a must-have for researchers and engineers working in the areas of mining technologies and fuel sciences.