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*Introductory Statistics* - Barbara Illowsky 2017-12-19

Introductory Statistics is designed for the one-semester, introduction to statistics course and is geared toward students majoring in fields other than math or engineering. This text assumes students have been exposed to intermediate algebra, and it focuses on the applications of statistical knowledge rather than the theory behind it. The foundation of this textbook is Collaborative Statistics, by Barbara Illowsky and Susan Dean. Additional topics, examples, and ample opportunities for practice have been added to each chapter. The development choices for this textbook were made with the guidance of many faculty members who are deeply involved in teaching this course. These choices led to innovations in art, terminology, and practical applications, all with a goal of increasing relevance and accessibility for students. We strove to make the discipline meaningful, so that students can draw from it a working knowledge that will enrich their future studies and help them make sense of the world around them. Coverage and Scope Chapter 1 Sampling and Data Chapter 2 Descriptive Statistics Chapter 3 Probability Topics Chapter 4 Discrete Random Variables Chapter 5 Continuous Random Variables Chapter 6 The Normal Distribution Chapter 7 The Central Limit Theorem Chapter 8 Confidence Intervals Chapter 9 Hypothesis Testing with One Sample Chapter 10 Hypothesis Testing with Two Samples Chapter 11 The Chi-Square Distribution Chapter 12 Linear Regression and Correlation Chapter 13 F Distribution and One-Way ANOVA

*Wholeness and the Implicate Order* - David Bohm 2005-07-12

David Bohm was one of the foremost scientific thinkers and philosophers of our time. Although deeply influenced by Einstein, he was also, more unusually for a scientist, inspired by mysticism. Indeed, in the 1970s and 1980s he made contact with both J. Krishnamurti and the Dalai Lama whose teachings helped shape his work. In both science and philosophy, Bohm's main concern was with understanding the nature of reality in general and of consciousness in particular. In this classic work he develops a theory of quantum physics which treats the totality of existence as an unbroken whole. Writing clearly and without technical jargon, he makes complex ideas accessible to anyone interested in the nature of reality.

**Physics at the Large Hadron Collider** - Amitava Datta 2010-05-30

In an epoch when particle physics is awaiting a major step forward, the Large Hadron Collider (LHC) at CERN, Geneva will soon be operational. It will collide a beam of high energy protons with another similar beam circulating in the same 27 km tunnel but in the opposite direction, resulting in the production of many elementary particles some never created in the laboratory before. It is widely expected that the LHC will discover the Higgs boson, the particle which supposedly lends masses to all other fundamental particles. In addition, the question as to whether there is some new law of physics at such high energy is likely to be answered through this experiment. The present volume contains a collection of articles written by international experts, both theoreticians and experimentalists, from India and abroad, which aims to acquaint a non-specialist with some basic issues related to the LHC. At the same time, it is expected to be a useful, rudimentary companion of introductory exposition and technical expertise alike, and it is hoped to become unique in its kind. The fact that there is substantial Indian involvement in the entire LHC endeavour, at all levels including fabrication, physics analysis procedures as well as theoretical studies, is also amply brought out in the collection.

**The Black Book of Quantum Chromodynamics** - John Campbell 2018

This title provides an in-depth introduction to the particle physics of current and future experiments at particle accelerators. The text provides the reader with an overview of practically all aspects of the strong interaction necessary to understand and appreciate modern particle phenomenology at the energy frontier.

*The Little Book of String Theory* - Steven S. Gubser 2010-02-08

The essential beginner's guide to string theory The Little Book of String

Theory offers a short, accessible, and entertaining introduction to one of the most talked-about areas of physics today. String theory has been called the "theory of everything." It seeks to describe all the fundamental forces of nature. It encompasses gravity and quantum mechanics in one unifying theory. But it is unproven and fraught with controversy. After reading this book, you'll be able to draw your own conclusions about string theory. Steve Gubser begins by explaining Einstein's famous equation  $E = mc^2$ , quantum mechanics, and black holes. He then gives readers a crash course in string theory and the core ideas behind it. In plain English and with a minimum of mathematics, Gubser covers strings, branes, string dualities, extra dimensions, curved spacetime, quantum fluctuations, symmetry, and supersymmetry. He describes efforts to link string theory to experimental physics and uses analogies that nonscientists can understand. How does Chopin's *Fantasia Impromptu* relate to quantum mechanics? What would it be like to fall into a black hole? Why is dancing a waltz similar to contemplating a string duality? Find out in the pages of this book. The Little Book of String Theory is the essential, most up-to-date beginner's guide to this elegant, multidimensional field of physics.

**Principles of Physics** - Michael Nelkon 1990-05-01

Principles of Physics is a well-established popular textbook which has been completely revised and updated.

*Instant Physics* - Tony Rothman 2018-04-17

For all of you who break out in a sweat at the thought of thermodynamics, or freeze up at the mention of quantum mechanics, like a bolt from the blue, INSTANT PHYSICS will zap you through the fascinating history of our most basic, yet baffling, science. From the thousand-year search for proof of the existence of the ever-elusive atom to the varied and heated arguments behind the big bang theory, INSTANT PHYSICS answers all the heavy questions with a light touch. You'll learn:\* How the Greek philosophers used the sledgehammer of mathematics to break apart the mysteries of the physical universe.\* Why gravity is a "romantic" force.\* How to tell the difference between a gluon, a meson, and a quark, even if you can't see them. INSTANT PHYSICS is crammed with special features, including chapter summaries, who's who lists, biographical and historical tidbits, and a host of illustrations, photos, equations, diagrams, and drawings.

**My Numbers, My Friends** - Paulo Ribenboim 2006-05-10

This selection of expository essays by Paulo Ribenboim should be of interest to mathematicians from all walks. Ribenboim, a highly praised author of several popular titles, writes each essay in a light and humorous language without secrets, making them thoroughly accessible to everyone with an interest in numbers. This new collection includes essays on Fibonacci numbers, prime numbers, Bernoulli numbers, and historical presentations of the main problems pertaining to elementary number theory, such as Kummer's work on Fermat's last theorem.

**Mathematics for Computer Science** - Eric Lehman 2017-03-08

This book covers elementary discrete mathematics for computer science and engineering. It emphasizes mathematical definitions and proofs as well as applicable methods. Topics include formal logic notation, proof methods; induction, well-ordering; sets, relations; elementary graph theory; integer congruences; asymptotic notation and growth of functions; permutations and combinations, counting principles; discrete probability. Further selected topics may also be covered, such as recursive definition and structural induction; state machines and invariants; recurrences; generating functions.

**Global Trends 2030** - Office of the Director of National Intelligence Council 2017-03-11

This publication covers global megatrends for the next 20 years and how they will affect the United States. This is the fifth installment in the National Intelligence Council's series aimed at providing a framework for thinking about possible futures and their implications. The report is intended to stimulate strategic thinking about the rapid and vast

geopolitical changes characterizing the world today and possible global trajectories during the next 15-20 years by identifying critical trends and potential discontinuities. The authors distinguish between megatrends, those factors that will likely occur under any scenario, and game-changers, critical variables whose trajectories are far less certain. NIC 2012-001. Several innovations are included in Global Trends 2030, including: a review of the four previous Global Trends reports, input from academic and other experts around the world, coverage of disruptive technologies, and a chapter on the potential trajectories for the US role in the international system and the possible the impact on future international relations. Table of Contents: Introduction 1 Megatrends 6 Individual Empowerment 8 Poverty Reduction 8 An Expanding Global Middle Class 8 Education and the Gender Gap 10 Role of Communications Technologies 11 Improving Health 11 A MORE CONFLICTED IDEOLOGICAL LANDSCAPE 12 Diffusion of Power 15 THE RISE AND FALL OF COUNTRIES: NOT THE SAME OLD STORY 17 THE LIMITS OF HARD POWER IN THE WORLD OF 2030 18 Demographic Patterns 20 Widespread Aging 20 Shrinking Number of Youthful Countries 22 A New Age of Migration 23 The World as Urban 26 Growing Food, Water, and Energy Nexus 30 Food, Water, and Climate 30 A Brighter Energy Outlook 34 Game-Changers 38 The Crisis-Prone Global Economy 40 The Plight of the West 40 Crunch Time Too for the Emerging Powers 43 A Multipolar Global Economy: Inherently More Fragile? 46 The Governance Gap 48 Governance Starts at Home: Risks and Opportunities 48 INCREASED FOCUS ON EQUALITY AND OPENNESS 53 NEW GOVERNMENTAL FORMS 54 A New Regional Order? 55 Global Multilateral Cooperation 55 The Potential for Increased Conflict 59 INTRASTATE CONFLICT: CONTINUED DECLINE 59 Interstate Conflict: Chances Rising 61 Wider Scope of Regional Instability 70 The Middle East: At a Tipping Point 70 South Asia: Shocks on the Horizon 75 East Asia: Multiple Strategic Futures 76 Europe: Transforming Itself 78 Sub-Saharan Africa: Turning a Corner by 2030? 79 Latin America: More Prosperous but Inherently Fragile 81 The Impact of New Technologies 83 Information Technologies 83 AUTOMATION AND MANUFACTURING TECHNOLOGIES 87 Resource Technologies 90 Health Technologies 95 The Role of the United States 98 Steady US Role 98 Multiple Potential Scenarios for the United States' Global Role 101 Alternative Worlds 107 Stalled Engines 110 FUSION 116 Gini-out-of-the-Bottle 122 Nonstate World 128 Acknowledgements 134 GT2030 Blog References 137 Audience: Appropriate for anyone, from businesses to banks, government agencies to start-ups, the technology sector to the teaching sector, and more. This publication helps anticipate where the world will be: socially, politically, technologically, and culturally over the next few decades. Keywords: Global Trends 2030 Alternative Worlds, global trends 2030, Global Trends series, National Intelligence Council, global trajectories, global megatrends, geopolitics, geopolitical changes

**Death from the Heavens** - Kenneth P. Werrell 2009

"This book is the first to take a comprehensive look at the history of strategic bombing from its beginnings to the present. Written by a historian who is also an expert on the technology of bombing and its application, the work covers the theory, the hardware, and the operations of strategic bombing ... Although his book is dominated by aircraft, it also covers air-to-surface and surface-to-air missiles. This study offers a critical analysis of strategic bombing and concludes by calling into question the value of this type of warfare"--Jacket.

Engaging Crystallization in Qualitative Research - Laura L. Ellingson 2009

Drawing upon her multi-award winning research and book using crystallization, Laura Ellingson presents a step-by-step guide to employing this cutting-edge methodology in qualitative research.

*The Physics of Radiation Therapy* - Faiz M. Khan 2012-03-28

Dr. Khan's classic textbook on radiation oncology physics is now in its thoroughly revised and updated Fourth Edition. It provides the entire radiation therapy team—radiation oncologists, medical physicists, dosimetrists, and radiation therapists—with a thorough understanding of the physics and practical clinical applications of advanced radiation therapy technologies, including 3D-CRT, stereotactic radiotherapy, HDR, IMRT, IGRT, and proton beam therapy. These technologies are discussed along with the physical concepts underlying treatment planning, treatment delivery, and dosimetry. This Fourth Edition includes brand-new chapters on image-guided radiation therapy (IGRT) and proton beam therapy. Other chapters have been revised to incorporate the most recent developments in the field. This edition also features more than 100 full-color illustrations throughout. A companion Website will offer the fully searchable text and an image bank.

Seeing Like a State - James C. Scott 2020-03-17

"One of the most profound and illuminating studies of this century to have been published in recent decades."—John Gray, *New York Times* Book Review Hailed as "a magisterial critique of top-down social planning" by the *New York Times*, this essential work analyzes disasters from Russia to Tanzania to uncover why states so often fail—sometimes catastrophically—in grand efforts to engineer their society or their environment, and uncovers the conditions common to all such planning disasters. "Beautifully written, this book calls into sharp relief the nature of the world we now inhabit."—*New Yorker* "A tour de force."—Charles Tilly, *Columbia University*

Planning Twentieth Century Capital Cities - David Gordon 2006-09-27

The twentieth century witnessed an unprecedented increase in the number of capital cities worldwide - in 1900 there were only about forty, but by 2000 there were more than two hundred. And this, surely, is reason enough for a book devoted to the planning and development of capital cities in the twentieth century. However, the focus here is not only on recently created capitals. Indeed, the case studies which make up the core of the book show that, while very different, the development of London or Rome presents as great a challenge to planners and politicians as the design and building of Brasília or Chandigarh. Put simply, this book sets out to explore what makes capital cities different from other cities, why their planning is unique, and why there is such variety from one city to another. Sir Peter Hall's 'Seven Types of Capital City' and Lawrence Vale's 'The Urban Design of Twentieth Century Capital Cities' provide the setting for the fifteen case studies which follow - Paris, Moscow and St Petersburg, Helsinki, London, Tokyo, Washington, Canberra, Ottawa-Hull, Brasília, New Delhi, Berlin, Rome, Chandigarh, Brussels, New York. To bring the book to a close Peter Hall looks to the future of capital cities in the twenty-first century. For anyone with an interest in urban planning and design, architectural, planning and urban history, urban geography, or simply capital cities and why they are what they are, *Planning Twentieth Century Capital Cities* will be the key source book for a long time to come.

The Big Picture - Sean Carroll 2016-05-10

The instant *New York Times* bestseller about humanity's place in the universe—and how we understand it. "Vivid...impressive...Splendidly informative."—*The New York Times* "Succeeds spectacularly."—*Science* "A tour de force."—*Salon* Already internationally acclaimed for his elegant, lucid writing on the most challenging notions in modern physics, Sean Carroll is emerging as one of the greatest humanist thinkers of his generation as he brings his extraordinary intellect to bear not only on Higgs bosons and extra dimensions but now also on our deepest personal questions: Where are we? Who are we? Are our emotions, our beliefs, and our hopes and dreams ultimately meaningless out there in the void? Do human purpose and meaning fit into a scientific worldview? In short chapters filled with intriguing historical anecdotes, personal asides, and rigorous exposition, readers learn the difference between how the world works at the quantum level, the cosmic level, and the human level—and then how each connects to the other. Carroll's presentation of the principles that have guided the scientific revolution from Darwin and Einstein to the origins of life, consciousness, and the universe is dazzlingly unique. Carroll shows how an avalanche of discoveries in the past few hundred years has changed our world and what really matters to us. Our lives are dwarfed like never before by the immensity of space and time, but they are redeemed by our capacity to comprehend it and give it meaning. *The Big Picture* is an unprecedented scientific worldview, a tour de force that will sit on shelves alongside the works of Stephen Hawking, Carl Sagan, Daniel Dennett, and E. O. Wilson for years to come.

**An Introduction to Regge Theory and High Energy Physics** - P. D. B. Collins 1977

This book presents an extended introduction to the theory of hadrons, the elementary particles which occur in the atomic nucleus.

**How People Learn II** - National Academies of Sciences, Engineering, and Medicine 2018-09-27

There are many reasons to be curious about the way people learn, and the past several decades have seen an explosion of research that has important implications for individual learning, schooling, workforce training, and policy. In 2000, *How People Learn: Brain, Mind, Experience, and School: Expanded Edition* was published and its influence has been wide and deep. The report summarized insights on the nature of learning in school-aged children; described principles for the design of effective learning environments; and provided examples of how that could be implemented in the classroom. Since then, researchers

have continued to investigate the nature of learning and have generated new findings related to the neurological processes involved in learning, individual and cultural variability related to learning, and educational technologies. In addition to expanding scientific understanding of the mechanisms of learning and how the brain adapts throughout the lifespan, there have been important discoveries about influences on learning, particularly sociocultural factors and the structure of learning environments. *How People Learn II: Learners, Contexts, and Cultures* provides a much-needed update incorporating insights gained from this research over the past decade. The book expands on the foundation laid out in the 2000 report and takes an in-depth look at the constellation of influences that affect individual learning. *How People Learn II* will become an indispensable resource to understand learning throughout the lifespan for educators of students and adults.

**The Revolt of the Public and the Crisis of Authority in the New Millennium** - Martin Gurri 2018

Riding a tsunami of information, the public has trampled on the temples of authority in every domain of human activity, everywhere. *The Revolt of the Public* tells the story of how ordinary people, gifted amateurs networked in communities of interest, have swarmed over the hierarchies of accredited professionals, questioned their methods, and shouted their failures from the digital rooftops. In science, business, media - and, pre-eminently, in politics and government - established elites have lost the power to command attention and set the agenda. The consequences have been revolutionary. Insurgencies enabled by digital devices and a vast information sphere have mobilized millions, toppling dictators in Egypt and Tunisia, crushing the ruling Socialist Party in Spain, inspiring "Tea Parties" and "Occupations" in the United States. Trust in political authority stands at an all-time low around the world. *The Revolt of the Public* analyzes the composition of the public, the nature of authority and legitimacy, and the part played by the perturbing agent: information. A major theme of the book is whether democratic institutions can survive the assaults of a public that at times appears to be at war with any form of organization, if not with history itself.

*Social Science Research* - Anol Bhattacharjee 2012-04-01

This book is designed to introduce doctoral and graduate students to the process of conducting scientific research in the social sciences, business, education, public health, and related disciplines. It is a one-stop, comprehensive, and compact source for foundational concepts in behavioral research, and can serve as a stand-alone text or as a supplement to research readings in any doctoral seminar or research methods class. This book is currently used as a research text at universities on six continents and will shortly be available in nine different languages.

**Electronic Structure** - Richard M. Martin 2004-04-08

The study of the electronic structure of materials is at a momentous stage, with the emergence of computational methods and theoretical approaches. Many properties of materials can now be determined directly from the fundamental equations for the electrons, providing insights into critical problems in physics, chemistry, and materials science. This book provides a unified exposition of the basic theory and methods of electronic structure, together with instructive examples of practical computational methods and real-world applications. Appropriate for both graduate students and practising scientists, this book describes the approach most widely used today, density functional theory, with emphasis upon understanding the ideas, practical methods and limitations. Many references are provided to original papers, pertinent reviews, and widely available books. Included in each chapter is a short list of the most relevant references and a set of exercises that reveal salient points and challenge the reader.

**Out of My Later Years** - Albert Einstein 2011-09-27

An inspiring collection of essays, in which Albert Einstein addresses the topics that fascinated him as a scientist, philosopher, and humanitarian. Divided by subject matter—"Science," "Convictions and Beliefs," "Public Affairs," etc.—these essays consider everything from the need for a "supranational" governing body to control war in the atomic age to freedom in research and education to Jewish history and Zionism to explanations of the physics and scientific thought that brought Albert Einstein world recognition. Throughout, Einstein's clear, eloquent voice presents an idealist's vision and relays complex theories to the layperson. Einstein's essays share his philosophical beliefs, scientific reasoning, and hopes for a brighter future, and show how one of the greatest minds of all time fully engaged with the changing world around him. This authorized ebook features rare photos and never-before-seen documents from the Albert Einstein Archives at the Hebrew University of Jerusalem.

**Mathematical Methods for Physicists** - George B. Arfken 2012-01-17  
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Integral Transforms  
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**No Bullshit Guide to Linear Algebra** - Ivan Savov 2020-10-25

This textbook covers the material for an undergraduate linear algebra course: vectors, matrices, linear transformations, computational techniques, geometric constructions, and theoretical foundations. The explanations are given in an informal conversational tone. The book also contains 100+ problems and exercises with answers and solutions. A special feature of this textbook is the prerequisites chapter that covers topics from high school math, which are necessary for learning linear algebra. The presence of this chapter makes the book suitable for beginners and the general audience—readers need not be math experts to read this book. Another unique aspect of the book are the applications chapters (Ch 7, 8, and 9) that discuss applications of linear algebra to engineering, computer science, economics, chemistry, machine learning, and even quantum mechanics.

**Quantum Physics for Beginners** - Carl J Pratt 2021-03-14

Do you want to know the principles that govern everything around you? Have you always been curious about quantum physics and its mysteries but you don't know where to begin? You have found the right place, your journey to learn quantum physics starts now! In this book you will find: What quantum physics is, the history and most famous experiments and achievements in quantum mechanics. Wave-particle duality dilemma. Heisenberg uncertainty principle. Schrodinger's equation. Quantum fields theory. Introduction to string theory. Real-world applications: Quantum computing, Quantum key distribution... And much more! Even if this is the first time that you are hearing these terms don't be scared by the big words. □This book makes quantum physics easy, accessible and interesting for everyone.□ Are you ready? Let's deep dive into quantum physics today! Click □BUY NOW□ and start your journey!

**Biophysics in Nursing** - Suresh K. Sharma 2010

**Paradox** - Jim Al-Khalili 2012-10-23

A fun and fascinating look at great scientific paradoxes. Throughout history, scientists have come up with theories and ideas that just don't seem to make sense. These we call paradoxes. The paradoxes Al-Khalili offers are drawn chiefly from physics and astronomy and represent those that have stumped some of the finest minds. For example, how can a cat be both dead and alive at the same time? Why will Achilles never beat a tortoise in a race, no matter how fast he runs? And how can a person be ten years older than his twin? With elegant explanations that bring the reader inside the mind of those who've developed them, Al-Khalili helps us to see that, in fact, paradoxes can be solved if seen from the right angle. Just as surely as Al-Khalili narrates the enduring fascination of these classic paradoxes, he reveals their underlying logic. In doing so, he brings to life a select group of the most exciting concepts in human knowledge. Paradox is mind-expanding fun.

**The Science of Interstellar** - Kip Thorne 2014-11-07

A journey through the otherworldly science behind Christopher Nolan's award-winning film, *Interstellar*, from executive producer and Nobel Prize-winning physicist Kip Thorne. *Interstellar*, from acclaimed filmmaker Christopher Nolan, takes us on a fantastic voyage far beyond our solar system. Yet in *The Science of Interstellar*, Kip Thorne, the Nobel prize-winning physicist who assisted Nolan on the scientific aspects of *Interstellar*, shows us that the movie's jaw-dropping events and stunning, never-before-attempted visuals are grounded in real science. Thorne shares his experiences working as the science adviser on the film and then moves on to the science itself. In chapters on wormholes, black holes, interstellar travel, and much more, Thorne's scientific insights—many of them triggered during the actual scripting and shooting of *Interstellar*—describe the physical laws that govern our universe and the truly astounding phenomena that those laws make possible. *Interstellar* and all related characters and elements are trademarks of and © Warner Bros. Entertainment Inc. (s14).

**The Conceptual Framework of Quantum Field Theory** - Anthony Duncan 2012-08-09

The book attempts to provide an introduction to quantum field theory emphasizing conceptual issues frequently neglected in more "utilitarian"

treatments of the subject. The book is divided into four parts, entitled respectively "Origins", "Dynamics", "Symmetries", and "Scales". The emphasis is conceptual - the aim is to build the theory up systematically from some clearly stated foundational concepts - and therefore to a large extent anti-historical, but two historical Chapters ("Origins") are included to situate quantum field theory in the larger context of modern physical theories. The three remaining sections of the book follow a step by step reconstruction of this framework beginning with just a few basic assumptions: relativistic invariance, the basic principles of quantum mechanics, and the prohibition of physical action at a distance embodied in the clustering principle. The "Dynamics" section of the book lays out the basic structure of quantum field theory arising from the sequential insertion of quantum-mechanical, relativistic and locality constraints. The central role of symmetries in relativistic quantum field theories is explored in the third section of the book, while in the final section, entitled "Scales", we explore in detail the feature of quantum field theories most critical for their enormous phenomenological success - the scale separation property embodied by the renormalization group properties of a theory defined by an effective local Lagrangian.

**An Introduction to Modern Stellar Astrophysics** - Dale A. Ostlie 2007  
This exciting text opens the entire field of modern astrophysics to the reader by using only the basic tools of physics. Designed for the junior-level astrophysics course, each topic is approached in the context of the major unresolved questions in astrophysics. The core chapters have been designed for a course in stellar structure and evolution, while the extended chapters provide additional coverage of the solar system, galactic structure, dynamics, evolution, and cosmology.

*The Equations of Life* - Charles S. Cockell 2018-06-19

A groundbreaking argument for why alien life will evolve to be much like life here on Earth. We are all familiar with the popular idea of strange alien life wildly different from life on earth inhabiting other planets. Maybe it's made of silicon! Maybe it has wheels! Or maybe it doesn't. In *The Equations of Life*, biologist Charles S. Cockell makes the forceful argument that the laws of physics narrowly constrain how life can evolve, making evolution's outcomes predictable. If we were to find on a distant planet something very much like a lady bug eating something like an aphid, we shouldn't be surprised. The forms of life are guided by a limited set of rules, and as a result, there is a narrow set of solutions to the challenges of existence. A remarkable scientific contribution breathing new life into Darwin's theory of evolution, *The Equations of Life* makes a radical argument about what life can--and can't--be.

*Introduction to Health Physics* - Herman Cember 1992

This guide offers students a background and basic understanding of the biophysical bases of radiation, radiation safety standards and the key factors in radiation protection. A revised and expanded edition, the book's contents include: radiation dosimetry, basic physical principles, biological effects of radiation, criticality control and radiation surveillance. The author also highlights new findings on non-ionizing radiation (laser and microwaves), computer use in dose calculation and dose limit recommendations from the International Commission on Radiation Protection. It aims to provide students with a framework and practical introduction to scientific principles and the problem-solving approaches needed in daily radiation protection practice.

**Uncle Petros and Goldbach's Conjecture** - Apostolos Doxiadis 2012-11-15

Uncle Petros is a family joke. An ageing recluse, he lives alone in a suburb of Athens, playing chess and tending to his garden. If you didn't know better, you'd surely think he was one of life's failures. But his young nephew suspects otherwise. For Uncle Petros, he discovers, was once a celebrated mathematician, brilliant and foolhardy enough to stake everything on solving a problem that had defied all attempts at proof for nearly three centuries - Goldbach's Conjecture. His quest brings him into contact with some of the century's greatest mathematicians, including the Indian prodigy Ramanujan and the young Alan Turing. But his struggle is lonely and single-minded, and by the end it has apparently destroyed his life. Until that is a final encounter with his nephew opens up to Petros, once more, the deep mysterious beauty of mathematics. *Uncle Petros and Goldbach's Conjecture* is an inspiring novel of intellectual adventure, proud genius, the exhilaration of pure mathematics - and the rivalry and antagonism which torment those who pursue impossible goals.

**Global Trends 2030** - National Intelligence Council (U.S.) 2012

This report is intended to stimulate thinking about the rapid and vast geopolitical changes characterizing the world today and possible global trajectories over the next 15 years. As with the NIC's previous Global

Trends reports, we do not seek to predict the future, which would be an impossible feat, but instead provide a framework for thinking about possible futures and their implications. In-depth research, detailed modeling and a variety of analytical tools drawn from public, private and academic sources were employed in the production of *Global Trends 2030*. NIC leadership engaged with experts in nearly 20 countries, from think tanks, banks, government offices and business groups, to solicit reviews of the report.

**No bullshit guide to math and physics** - Ivan Savov 2014-08-07

Often calculus and mechanics are taught as separate subjects. It shouldn't be like that. Learning calculus without mechanics is incredibly boring. Learning mechanics without calculus is missing the point. This textbook integrates both subjects and highlights the profound connections between them. This is the deal. Give me 350 pages of your attention, and I'll teach you everything you need to know about functions, limits, derivatives, integrals, vectors, forces, and accelerations. This book is the only math book you'll need for the first semester of undergraduate studies in science. With concise, jargon-free lessons on topics in math and physics, each section covers one concept at the level required for a first-year university course. Anyone can pick up this book and become proficient in calculus and mechanics, regardless of their mathematical background.

*Nonlinear Optics of Photonic Crystals and Meta-Materials* - Andrea Banfi 2016-02-23

Jet physics is an incredibly rich subject detailing the narrow cone of hadrons and other particles produced by the hadronization of a quark or gluon in a particle physics or heavy ion experiment. This book is a general overview of jet physics for scientists not directly involved in the field. It presents the basic experimental and theoretical problems arising when dealing with jets, and describing the solutions proposed in recent years.

*Fratelli Tutti* - Pope Francis 2020-11-05

Heavy Quark Physics - Aneesh V. Manohar 2007-07-02

Understanding the physics of heavy quarks gives physicists the unique opportunity to test the predictions of Quantum Chromodynamics and the Standard Model. *Heavy Quark Physics* provides an exciting introduction to this new area of high energy physics. Two leading experts in the field review the standard model, the basics of heavy quark spin-flavor symmetry, and detail how it can be applied to the classification of states, decays and fragmentation. The heavy quark effective theory is developed, including the radiative and  $1/m_Q$  corrections, and applied to the study of hadron masses, form factors, and inclusive decay rates. The authors also discuss the application of chiral perturbation theory to heavy hadrons. To aid the reader, many of the key calculations are performed step by step, and problems are provided at the end of each chapter. This lucid volume provides graduate students with an ideal introduction to the physics of heavy quarks, and more experienced researchers with an authoritative reference to the subject.

**Basic Electrical and Electronics Engineering** - S.K. Bhattacharya

*Basic Electrical and Electronics Engineering* provides an overview of the basics of electrical and electronic engineering that are required at the undergraduate level. The book allows students outside electrical and electronics engineering to easily

Construction Calculations Manual - Sidney M Levy 2011-09-19

*Construction Calculations* is a manual that provides end users with a comprehensive guide for many of the formulas, mathematical vectors and conversion factors that are commonly encountered during the design and construction stages of a construction project. It offers readers detailed calculations, applications and examples needed in site work, cost estimation, piping and pipefitting, and project management. The book also serves as a refresher course for some of the formulas and concepts of geometry and trigonometry. The book is divided into sections that present the common components of construction. The first section of the book starts with a refresher discussion of unit and systems measurement; its origin and evolution; the standards of length, mass and capacity; terminology and tables; and notes of metric, U.S., and British units of measurements. The following concepts are presented and discussed throughout the book: Conversion tables and formulas, including the Metric Conversion Law and conversion factors for builders and design professionals. Calculations and formulas of geometry, trigonometry and physics in construction. Rudiments of excavation, classification, use of material, measurement and payment. Soil classification and morphology, including its physicochemical properties. Formulas and calculations needed for soil tests and evaluations and for

the design of retaining structures  
Calculations relating to concrete and masonry  
Calculations of the size/weight of structural steel and other metals  
Mechanical properties of wood and processing of wood products  
Calculations relating to sound and thermal transmission  
Interior finishes, plumbing and HVAC calculations  
Electrical formulas and calculations  
Construction managers and engineers, architects, contractors, and

beginners in engineering, architecture, and construction will find this practical guide useful for managing all aspects of construction. Work in and convert between building dimensions, including metric  
Built-in right-angle solutions  
Areas, volumes, square-ups  
Complete stair layouts  
Roof, rafter and framing solutions  
Circle: arcs, circumference, segments