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This book sets forth the physical, mathematical, and numerical foundations of computer models used to understand and predict the global ocean climate system. Aimed at students and researchers of ocean and climate science who seek to understand the physical content of ocean model equations and numerical methods for their solution, it is largely general in formulation and employs modern mathematical techniques. It also highlights certain areas of cutting-edge research. Stephen Griffies presents material that spans a broad spectrum of issues critical for modern ocean climate models. Topics are organized into parts consisting of related chapters, with each part largely self-contained. Early chapters focus on the basic equations arising from classical mechanics and thermodynamics used to rationalize ocean fluid dynamics. These equations are then cast into a form appropriate for numerical models of finite grid resolution. Basic discretization methods are described for commonly used classes of ocean climate models. The book proceeds to focus on the parameterization of phenomena occurring at scales unresolved by the ocean model, which represents a large part of modern oceanographic research. The final part provides a tutorial on the tensor methods that are used throughout the book, in a general and elegant fashion, to formulate the equations.

Topological insulators are insulating in the bulk, but process metallic states present around its boundary owing to the topological origin of the band structure. The metallic edge or surface states are immune to weak disorder or impurities, and robust against the deformation of the system geometry. This book, the first of its kind on topological insulators, presents a unified description of topological insulators from one to three dimensions based on the modified Dirac equation. A series of solutions of the bound states near the boundary are derived, and the existing conditions of these solutions are described. Topological invariants and their applications to a variety of systems from one-dimensional polyacetalene, to two-dimensional quantum spin Hall effect and p-wave superconductors, and three-dimensional topological insulators and superconductors or superfluids are introduced, helping readers to better understand this fascinating new field. This book is intended for researchers and graduate students working in the field of topological insulators and related areas. Shun-Qing Shen is a Professor at the Department of Physics, the University of Hong Kong, China.

This is the second volume in a series of chronological histories prepared by the Marine Corps History and Museums Division to cover the entire span of Marine Corps involvement in the Vietnam War. This volume details the Marine activities during 1965, the year the war escalated and major American combat units were committed to the conflict. The narrative traces the landing of the nearly 5,000-man 9th Marine Expeditionary Brigade and its transformation into the ?II Marine Amphibious Force, which by the end of the year contained over 38,000 Marines. During this period, the Marines established three enclaves in South Vietnam’s northernmost corps area, I Corps, and their mission expanded from defense of the Da Nang Airbase to a balanced strategy involving base defense, offensive operations, and pacification. This volume continues to treat the activities of Marine advisors to the South Vietnamese armed forces but in less detail than its predecessor volume, U.S. Marines in Vietnam, 1954-1964; The

Advisory and Combat Assistance Era.

Yet the scale and rate of defence procurement frequently seemed to be more than and beyond what the nation required for modernization on the one hand and security on the other. Nor did there seem to be any great defence logic in what appeared to be a continuing nuclear weapon programme.

Digital Design and Computer Architecture: ARM Edition covers the fundamentals of digital logic design and reinforces logic concepts through the design of an ARM microprocessor. Combining an engaging and humorous writing style with an updated and hands-on approach to digital design, this book takes the reader from the fundamentals of digital logic to the actual design of an ARM processor. By the end of this book, readers will be able to build their own microprocessor and will have a top-to-bottom understanding of how it works. Beginning with digital logic gates and progressing to the design of combinational and sequential circuits, this book uses these fundamental building blocks as the basis for designing an ARM processor. SystemVerilog and VHDL are integrated throughout the text in examples illustrating the methods and techniques for CAD-based circuit design. The companion website includes a chapter on I/O systems with practical examples that show how to use the Raspberry Pi computer to communicate with peripheral devices such as LCDs, Bluetooth radios, and motors. This book will be a valuable resource for students taking a course that combines digital logic and computer architecture or students taking a two-quarter sequence in digital logic and computer organization/architecture. Covers the fundamentals of digital logic design and reinforces logic concepts through the design of an ARM microprocessor. Features side-by-side examples of the two most prominent Hardware Description Languages (HDLs)—SystemVerilog and VHDL—which illustrate and compare the ways each can be used in the design of digital systems. Includes examples throughout the text that enhance the reader’s understanding and retention of key concepts and techniques. The Companion website includes a chapter on I/O systems with practical examples that show how to use the Raspberry Pi computer to communicate with peripheral devices such as LCDs, Bluetooth radios, and motors. The Companion website also includes appendices covering practical digital design issues and C programming as well as links to CAD tools, lecture slides, laboratory projects, and solutions to exercises.

Whereas traditional classroom instruction requires pilots to be pulled 'off the line', a training facility to be maintained and instructors to be compensated, e-learning is extremely cost-effective and therefore an attractive alternative. However, e-learning only saves money if the training is effective. Eager to reap financial benefits, e-learning courses have a history of varying dramatically in quality. The poorest courses are those that directly convert classroom-based presentations to an online format, not recognizing that computer-based instruction is an entirely different medium. Addressing this issue directly, e-Learning in Aviation explores the characteristics of computer-based course design and multimedia that are associated with improved learning. It then provides guidance regarding how to use research-based instructional design principles to plan, design, develop, and implement an e-Learning course within an aviation organization and continually evaluate whether or not the course is accomplishing instructional goals. A blended learning strategy, which incorporates both face-to-face and computer-based instruction, is suggested as the most appropriate choice for the majority of aviation companies. The goal of this approach is to utilize e-Learning as a tool to reduce time at the training centre and thereby increase pilot productivity and potentially improve the quality of training. Although the examples within this book focus on pilot training, the suggestions and guidelines are applicable to all employee groups within the industry.

This is an IEEE classic reissue of the book published by John Wiley & Sons in 1974.This definitive text and reference covers all aspects of microwave mobile systems design. Encompassing ten years of advanced research in the field, it reviews basic microwave theory, explains how cellular systems work and presents useful techniques for effective systems development. Key features include: complete coverage of microwave propagation techniques to design successful cellular systems, extensive chapters covering the broad fundamentals of microwave usage in mobile radio propagation and the functions of mobile radio antennas, comprehensive treatment of modulation methods, interference, noise, layout and control of high-capacity systems, and more! The return of this classic volume should be welcomed by all those seeking an authoritative and complete source of information on this emerging technology.

The U.S. Department of the Army is headquartered at the Pentagon in Arlington, Virginia, and authors The Soldier's Guide, The Complete Guide to Edible Wild Plants, U.S. Army Ranger Handbook, U.S. Army Hand-to-Hand Combat, U.S. Army First Aid Manual, U.S. Army Weapons Systems, U.S. Army Special Forces Handbook, U.S. Army Guide to Boobytraps, U.S. Army Explosives and Demolitions Handbook, U.S. Army Special Forces Guide to Unconventional Warfare, and U.S. Army Special Forces Medical Handbook. Skyhorse Publishing is proud to publish a range of books for readers interested in military tactics and skills. We publish content provided by or of interest to the U.S. Army, Army Rangers, the U.S. Navy, Navy SEALs, the U.S. Air Force, the U.S. Marine Corps, and the Department of Defense. Our books cover topics such as survival, emergency medicine, weapons, guns, weapons systems, hand-to-hand combat, and more. While not every title we publish becomes a New York Times bestseller or a national bestseller, we are committed to publishing books on subjects that are sometimes overlooked by other publishers and to authors whose work might not otherwise find a home.

Considered one of most influential U. S. military officers of the twentieth century, William E. DePuy (1919--1992) developed the education and training program that regenerated the U.S. Army after the Vietnam War. Henry G. Gole draws from sources such as transcripts and letters in DePuy's personal papers, interviews with those who knew him best, and secondary literature to trace DePuy's life from child to decorated officer to commander of Training and Doctrine Command. General William E. DePuy: Preparing the Army for Modern War is the first book-length biography of the important figure who revolutionized military training and created a modern program for doctrine, education, and combat development that is still used today.

Knot theory is a classical area of low-dimensional topology, directly connected with the theory of three-manifolds and smooth four-manifold topology. In recent years, the subject has undergone transformative changes thanks to its connections with a number of other mathematical disciplines, including gauge theory; representation theory and categorification; contact geometry; and the theory of pseudo-holomorphic curves. Starting from the combinatorial point of view on knots using their grid diagrams, this book serves as an introduction to knot theory, specifically as it relates to some of the above developments. After a brief overview of the background material in the subject, the book gives a self-contained treatment of knot Floer homology from the point of view of grid diagrams. Applications include computations of the unknotting number and slice genus of torus knots (asked first in the 1960s and settled in the 1990s), and tools to

study variants of knot theory in the presence of a contact structure. Additional topics are presented to prepare readers for further study in holomorphic methods in low-dimensional topology, especially Heegaard Floer homology. The book could serve as a textbook for an advanced undergraduate or part of a graduate course in knot theory. Standard background material is sketched in the text and the appendices.

Describes the history of Fort Monmouth and Army communications and electronics, from 1917 to 2007.

July 2019 Printed in BLACK AND WHITE The Army's Weapon Systems Handbook was updated in July 2019, but is still titled "Weapon Systems Handbook 2018." We are printing this in black and white to keep the price low. It presents many of the acquisition programs currently fielded or in development. The U.S. Army Acquisition Corps, with its 36,000 professionals, bears a unique responsibility for the oversight and systems management of the Army's acquisition lifecycle. With responsibility for hundreds of acquisition programs, civilian and military professionals collectively oversee research, development and acquisition activities totaling more than $20 billion in Fiscal Year 2016 alone. Why buy a book you can download for free? We print this so you don't have to. We at 4th Watch Publishing are former government employees, so we know how government employees actually use the standards. When a new standard is released, somebody has to print it, punch holes and put it in a 3-ring binder. While this is not a big deal for a 5 or 10-page document, many DoD documents are over 400 pages and printing a large document is a time- consuming effort. So, a person that's paid $25 an hour is spending hours simply printing out the tools needed to do the job. That's time that could be better spent doing mission. We publish these documents so you can focus on what you are there for. It's much more cost-effective to just order the latest version from Amazon.com. SDVOSB If there is a standard you would like published, let us know. Our web site is usgovpub.com

2007 Army modernization planNATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2013, MAY 11, 2012, 112-2 HOUSE REPORT 112-479Weapon Systems 2012Weapon SystemsUnited States Army Combat Forces JournalU.S. Army Weapons Systems 2013-2014Simon and Schuster

Artillery Strong tells the story of the US Army's Field Artillery modernization efforts from the Gulf War of 1991 through the first two decades of the 21st Century. This study originated as the US Army Field Artillery School published Operation Desert Storm and Beyond: Modernizing the Field Artillery in 2005. The 2005 edition covered field artillery developments during the 1990s.--Provided by publisher.

Training Circular (TC) 3-09.81, "Field Artillery Manual Cannon Gunnery," sets forth the doctrine pertaining to the employment of artillery fires. It explains all aspects of the manual cannon gunnery problem and presents a practical application of the science of ballistics. It includes step-by-step instructions for manually solving the gunnery problem which can be applied within the framework

of decisive action or unified land operations. It is applicable to any Army personnel at the battalion or battery responsible to delivered field artillery fires. The principal audience for ATP 3-09.42 is all members of the Profession of Arms. This includes field artillery Soldiers and combined arms chain of command field and company grade officers, middle-grade and senior noncommissioned officers (NCO), and battalion and squadron command groups and staffs. This manual also provides guidance for division and corps leaders and staffs in training for and employment of the BCT in decisive action. This publication may also be used by other Army organizations to assist in their planning for support of battalions. This manual builds on the collective knowledge and experience gained through recent operations, numerous exercises, and the deliberate process of informed reasoning. It is rooted in time-tested principles and fundamentals, while accommodating new technologies and diverse threats to national security.

The United States faces major challenges in dealing with Iran, the threat of terrorism, and the tide of political instability in the Arabian Peninsula. The presence of some of the world’s largest reserves of oil and natural gas, vital shipping lanes, and Shia populations throughout the region have made the peninsula the focal point of US and Iranian strategic competition.

Describes the LISP programming language, and covers basic procedures, data, and modularity.

This book offers a thorough appraisal of Operation Allied Force, NATO's 78-day air war to compel the president of Yugoslavia, Slobodan Milosevic, to end his campaign of ethnic cleansing in Kosovo. The author sheds light both on the operation's strengths and on its most salient weaknesses. He outlines the key highlights of the air war and examines the various factors that interacted to induce Milosevic to capitulate when he did. He then explores air power's most critical accomplishments in Operation Allied Force as well as the problems that hindered the operation both in its planning and in its execution. Finally, he assesses Operation Allied Force from a political and strategic perspective, calling attention to those issues that are likely to have the greatest bearing on future military policymaking. The book concludes that the air war, although by no means the only factor responsible for the allies' victory, certainly set the stage for Milosevic's surrender by making it clear that he had little to gain by holding out. It concludes that in the end, Operation Allied Force's most noteworthy distinction may lie in the fact that the allies prevailed despite the myriad impediments they faced.