

Reeds 1 Mathematics For Engineers Vol 1

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer--even if you work as a system administrator, software developer, data scientist, or site reliability engineer. With this book, professionals from around the world provide valuable insight into today's cloud engineering role. These concise articles explore the entire cloud computing experience, including fundamentals, architecture, and migration. You'll delve into security and compliance, operations and reliability, and software development. And examine networking, organizational culture, and more. You're sure to find 1, 2, or 97 things that inspire you to dig deeper and expand your own career. "Three Keys to Making the Right Multicloud Decisions," Brendan O'Leary "Serverless Bad Practices," Manases Jesus Galindo Bello "Failing a Cloud Migration," Lee Atchison "Treat Your Cloud Environment as If It Were On Premises," Iyana Garry "What Is Toil, and Why Are SREs Obsessed with It?," Zachary Nickens "Lean QA: The QA Evolving in the DevOps World," Theresa Neate "How Economies of Scale Work in the Cloud," Jon Moore "The Cloud Is Not About the Cloud," Ken Corless "Data Gravity: The Importance of Data Management in the Cloud," Geoff Hughes "Even in the Cloud, the Network Is the Foundation," David Murray "Cloud Engineering Is About Culture, Not Containers," Holly Cummins

265 challenging problems in all phases of group theory, gathered for the most part from papers published since 1950, although some classics are included.

This book, "Military Engineering", is a collection of reviewed and relevant research chapters, offering a comprehensive overview of the recent developments in the field of military engineering. The book comprises single chapters authored by various researchers and edited by an expert active in the physical sciences, engineering and technology research area. All chapters are complete in themselves but united under a common research study topic. This publication aims at providing a thorough overview of the latest research efforts by international authors on military engineering, and opening new possible research paths for further novel developments.

Developed to complement Reeds Vol 8 (General Engineering for Marine Engineers), this indispensable textbook comprehensively covers the motor engineering syllabus for marine engineering officer cadets. Starting with the theoretical and practical thermodynamic operating cycles, the book is structured to give a description of the engines and components used to extract energy from fossil fuels and achieve high levels of efficiency.

Accessibly written and clearly illustrated, this book is the only guide available for marine engineering students focusing on the knowledge needed for passing the motor engineering certificate of Competency (CoC) examinations. This new edition reflects all developments within the discipline and includes updates and additions on, amongst other things: · Engine emissions and control engineering · Fuel injection · Starting and reversing · Ancillary supply systems · Safety and the environment Plus updates to many of the technical engineering drawings.

Reeds Vol 2: Applied Mechanics

Military Engineering

Introduction to Marine Engineering

Software-Defined Radio for Engineers

Reeds Vol 9: Steam Engineering Knowledge for Marine Engineers

For the past 17 years, the U.S. National Commission on Mathematics Instruction (USNC/MI) has held workshops with mathematics educators from countries that typically perform well on international assessments and have a history of strong mathematics education programs, such as Japan, China, and South Korea. Finland is among this group. Even though its mathematics education system has some common characteristics with other top-performing nations, such as a great social respect for the teaching profession, it also has unique characteristics. The USNC/MI, a standing committee of the National Academies of Sciences, Engineering, and Medicine, planned a workshop at which U.S. and Finnish mathematics educators could exchange information and ideas about the preparation of new mathematics teachers and the means of providing them with support and professional development throughout their careers. While this is not the first time U.S. and Finnish mathematics educators have discussed educational practices, this workshop focused primarily on teacher development in both nations in the context of mathematics education. This publication summarizes the presentations and discussions from the workshop.

Set-Theoretic Topology deals with results concerning set theoretic topology and indicates directions for further investigations. Topics covered include normality and conditions in abstract spaces, compactifications, cardinal invariance, mapping theory, product spaces, and metrization. Comprised of 29 chapters, this volume begins with an example concerning the preservation of the Lindelöf property in product spaces, followed by a discussion on closed-completeness in spaces with a quasi-G_δ diagonal and with weak covering properties. The reader is then introduced to countably compact extensions of normal locally compact M-spaces; continuously semi-metrizable spaces; and closed discrete collections of singular cardinality. Subsequent chapters focus on open mapping theory; a selection-theoretic approach to certain extension theorems; semicompletable Moore spaces; and non-normal spaces. The book also considers complete mappings in base of countable order theory before concluding with an analysis of locally separable Moore spaces. This monograph should be of value to students, researchers, and specialists in the field of mathematics.

This book covers the principal topics in thermodynamics for officer cadets studying Merchant Navy Marine Engineering Certificates of Competency (CoC) as well as the core syllabi in thermodynamics for undergraduate students in marine engineering, naval architecture and other marine technology related programmes. The book

provides a firm foundation in the principals of thermodynamics, decoding the fundamental science and physics applied to marine technology, covering examples of modern machines and practice to reflect current legislation and syllabi. The new edition will provide worked examples and test exam questions, corresponding to current Merchant Navy Qualifications as well as university-style examinations. Where relevant, reference will be made to self-study computer exercises for undertaking multiple calculations in common software, e.g. MS Excel. This key textbook takes into account the varying needs of marine students, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career, including National Diplomas, Higher National Diploma and degree courses.

Based on the popular Artech House classic, Digital Communication Systems Engineering with Software-Defined Radio, this book provides a practical approach to quickly learning the software-defined radio (SDR) concepts needed for work in the field. This up-to-date volume guides readers on how to quickly prototype wireless designs using SDR for real-world testing and experimentation. This book explores advanced wireless communication techniques such as OFDM, LTE, WLA, and hardware targeting. Readers will gain an understanding of the core concepts behind wireless hardware, such as the radio frequency front-end, analog-to-digital and digital-to-analog converters, as well as various processing technologies. Moreover, this volume includes chapters on timing estimation, matched filtering, frame synchronization message decoding, and source coding. The orthogonal frequency division multiplexing is explained and details about HDL code generation and deployment are provided. The book concludes with coverage of the WLAN toolbox with OFDM beacon reception and the LTE toolbox with downlink reception. Multiple case studies are provided throughout the book. Both MATLAB and Simulink source code are included to assist readers with their projects in the field.

Graph Theory with Applications to Engineering and Computer Science

Reeds Vol 6: Basic Electrotechnology for Marine Engineers

Applied Mathematics in Chemical Engineering

Mathematics for Physics

Math Made Easy

Covering applications to physics and engineering as well, this relatively elementary discussion of algebraic equations with integral coefficients and with more than one unknown will appeal to students and mathematicians from high school level onward. 1961 edition.

Within the marine and offshore industry, there is a clear and growing need for increased training and education on the use of electrical power systems. The number of electrical plant and appliances now in service has grown at an alarming rate in recent years, as has the amount of electrical power generated and utilised on board. Large passenger ships now carry as many electrical officers as marine engineers, and electrical propulsion is now in common use by LNG carriers, small parcel tankers, oil tankers, ferries, offshore support, the navy, fleet auxiliary, cable layers and cruise ships. A number of shipping companies now award the Chief Electro Technical Officer the equivalent rank to the ship's master and Chief Engineer. These developments have resulted in the establishment of a Foundation Degree programme for Electro Technical Officers and the current development of full degree programmes. As such, a targeted textbook for students on the

subject is required. As with all titles in the Reeds Marine Engineering Series, this book will be written in clear, accessible language, so as to be of use to all students and particularly those for whom English isn't their first language. Technical drawings and diagrams will be used throughout and each chapter will be accompanied by example examination questions. Developed to complement Reeds Vol. 12 (Motor Engineering for Marine Engineers), this textbook is key for all marine engineering officer cadets. This new edition has been extensively updated to include the latest equipment, practices and trends in marine engineering, as well as incorporating the 2010 Manila Amendments, particularly relating to Management. Accessibly written and clearly illustrated, this book is the core guide focusing on the knowledge needed for passing the engineering certificate of Competency (CoC) examinations. This key textbook takes into account the varying needs of students studying motor engineering, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career, including National diplomas, Higher National Diploma and degree courses. An essential buy for any marine engineering student.

This indispensable guide to ship stability covers topics such as flotation and buoyancy, small angle, large angle and longitudinal stability, water density effects, bilging, ship resistance, and advanced hydrostatics. Each chapter has a comprehensive list of aims and objectives at the start of the topic, followed by a check-list at the end of the topic for students to ensure that they have developed all the relevant skills before moving onto the next topic area. The book features over 170 worked examples with fully explained solutions, enabling students to work through the examples to build up their knowledge and develop the necessary key skills. The worked examples, which range in difficulty from very simple one-step solutions to SQA standard exam questions and above, are predominantly based on a hypothetical ship, with the reader supplied with extracts from a typical data book for the ship which replicates those found on real ships, enabling the reader to develop and practise real-life skills.

Reeds Vol 2: Applied Mechanics for Marine Engineers

Engineering in K-12 Education

Supporting Mathematics Teachers in the United States and Finland

Problems in Group Theory

Understanding the Educational and Career Pathways of Engineers

Marine Auxiliary Machinery, Seventh Edition is a 16-chapter text that covers the significant advances in marine auxiliary machinery relevant to the certification of competency examinations. The introductory chapters deal with the basic components of marine machineries, such as propulsion system, heat exchanger, valves, and pipelines. The succeeding chapters describe the pumps and pumping system, specifically the tanker and gas carrier cargo pumps. Considerable chapters are devoted to the operation of machinery's major components, including the propeller shaft, steering gear, auxiliary power, bow thrusters, and stabilizers. Other chapters consider the refrigeration,

heating, ventilation, and air conditioning systems. The final chapters tackle the safety system of marine auxiliary machinery, particularly the fire protection, safety, instrumentation, and control systems.

This book will prove useful to marine and mechanical engineers.

This book was compiled to assist students studying for the Department of Trade Engineering Drawing examination for a First and Second Class Certificate of Competency. It will also benefit anyone studying for the Engineering Knowledge paper in Part B of the exam. The DoT requirements differ from standard drawing office practice. In order to determine the engineering knowledge of a candidate, a general assembly drawing is required. Details of the drawing are given in the form of dimensioned pictorial views of the individual components for an item of marine engineering machinery. The candidate's skill as a draughtsman is judged from his attempt at the drawing. It is expected that the particular piece of machinery could be manufactured from the drawing, which necessitates inserting dimensions on a general assembly drawing - a practice not common elsewhere. This established textbook will assist students through the course.

This textbook covers ship construction techniques and methods for all classes of Merchant Navy marine deck and engineering Certificates of Competency (CoC) as well as Undergraduate students studying Naval Architecture and Marine Engineering. It is complementary to Volume 4 (Naval Architecture) and Volume 8 (General Engineering Knowledge). Importantly, this new edition contains up-to-date information on modern shipyards, dry-docking procedures and methods of construction. Extensively illustrated, the book also includes sample examination questions with worked examples answers to aid students in their learning.

An engagingly-written account of mathematical tools and ideas, this book provides a graduate-level introduction to the mathematics used in research in physics. The first half of the book focuses on the traditional mathematical methods of physics - differential and integral equations, Fourier series and the calculus of variations. The second half contains an introduction to more advanced subjects, including differential geometry, topology and complex variables. The authors' exposition avoids excess rigor whilst explaining subtle but important points often glossed over in more elementary texts. The topics are illustrated at every stage by carefully chosen examples, exercises and problems drawn from realistic physics settings. These make it useful both as a textbook in advanced courses and for self-study. Password-protected solutions to the exercises are available to instructors at www.cambridge.org/9780521854030.

Reeds Vol 1: Mathematics for Engineers

Reeds Vol 16: Electrical Power Systems for Marine Engineers

Reeds Vol 5: Ship Construction for Marine Engineers

An Introduction to Numerical Methods and Analysis

The Solution of Equations in Integers

Engineering education in K-12 classrooms is a small but growing phenomenon that may have implications for engineering and also for the other STEM subjects--science,

technology, and mathematics. Specifically, engineering education may improve student learning and achievement in science and mathematics, increase awareness of engineering and the work of engineers, boost youth interest in pursuing engineering as a career, and increase the technological literacy of all students. The teaching of STEM subjects in U.S. schools must be improved in order to retain U.S. competitiveness in the global economy and to develop a workforce with the knowledge and skills to address technical and technological issues. Engineering in K-12 Education reviews the scope and impact of engineering education today and makes several recommendations to address curriculum, policy, and funding issues. The book also analyzes a number of K-12 engineering curricula in depth and discusses what is known from the cognitive sciences about how children learn engineering-related concepts and skills. Engineering in K-12 Education will serve as a reference for science, technology, engineering, and math educators, policy makers, employers, and others concerned about the development of the country's technical workforce. The book will also prove useful to educational researchers, cognitive scientists, advocates for greater public understanding of engineering, and those working to boost technological and scientific literacy.

Covering the syllabus in mathematics for the Marine Engineer Officer Certificates of Competency in the Merchant Navy, each chapter of this book has fully worked examples woven into the text. Test examples are set at the end of each chapter, and some typical exam questions are included. The author has provided fully worked step-by-step solutions to the final answers.

Developed to complement Reeds Vol 12 (Motor Engineering for Marine Engineers), this textbook is key for all marine engineering officer cadets. Accessibly written and clearly illustrated, General Engineering Knowledge for Marine Engineers takes into account the varying needs of students studying 'general' marine engineering, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career. It includes the latest equipment, practices and trends in marine engineering, as well as incorporating the 2010 Manila Amendments, particularly relating to management. It is an essential buy for any marine engineering student. This new edition reflects all developments within the discipline and includes updates and additions on, amongst other things: · Corrosion, water treatments and tests · Refrigeration and air conditioning · Fuels, such as LNG and LPG · Insulation · Low sulphur fuels · Fire and safety Plus updates to many of the technical engineering drawings.

Volume four of Reed's Marine Engineering Series" is based on the Naval Architecture syllabuses for the Certificate of Competency for Class 2 and Class 1 Marine Engineer Officers, administered on behalf of the UK Department of Transport and SCOTVEC. Explanatory diagrams and worked examples should assist the student to assimilate the principles, and typical exam questions should test knowledge."

A Guided Tour for Graduate Students

Reed's Mathematical Tables and Engineering Formulae

Marine Auxiliary Machinery

Reeds Vol 10: Instrumentation and Control Systems

Version 3.0

The fundamental mathematical tools needed to understand machine learning include linear algebra, analytic geometry, matrix decompositions, vector calculus, optimization, probability and statistics. These topics are traditionally taught in disparate courses, making it hard for data science or computer science students, or professionals, to efficiently learn the mathematics. This self-contained textbook bridges the gap between mathematical and machine learning texts, introducing the mathematical concepts with a minimum of prerequisites. It uses these concepts to derive four central machine learning methods: linear regression, principal component analysis, Gaussian mixture models and support vector machines. For students and others with a mathematical background, these derivations provide a starting point to machine learning texts. For those learning the mathematics for the first time, the methods help build intuition and practical experience with applying mathematical concepts. Every chapter includes worked examples and exercises to test understanding. Programming tutorials are offered on the book's web site.

The problems of constructing covering codes and of estimating their parameters are the main concern of this book. It provides a unified account of the most recent theory of covering codes and shows how a number of mathematical and engineering issues are related to covering problems. Scientists involved in discrete mathematics, combinatorics, computer science, information theory, geometry, algebra or number theory will find the book of particular significance. It is designed both as an introductory textbook for the beginner and as a reference book for the expert mathematician and engineer. A number of unsolved problems suitable for research projects are also discussed. Geometrical description of photons, electrons and composite particles. Dimensional analysis of electrical charge. Quantum gravity, gravitational frequency spectrum, mass oscillator synchronization, spectral energy density modulation and phase conjugation. Origin of charge, fine structure constant and inertia. Prospects for wave-based EM propulsion.

This book is a companion to Volume 8 - "General Engineering Knowledge" in the "Reed's Marine Engineering Series", and is based on the DoT syllabus of Engineering Knowledge for the Class 2 and Class 1 Engineers Steam Certificates and Steam Endorsements. It includes a selection of questions of the type set in the exams for Class 2 and Class 1 Engineers."

Insights from 25 of Wall Street's Elite

Reeds Vol 1: Mathematics for Marine Engineers

Proceedings of a Workshop

Mathematics for Machine Learning

Reeds Vol 13: Ship Stability, Powering and Resistance

In the Guide to the Software Engineering Body of Knowledge (SWEBOK(R) Guide), the IEEE Computer Society establishes a baseline for the body of knowledge for the field of software engineering, and the work supports the Society's responsibility to promote the advancement of both theory and practice in this field. It should be noted that the Guide does not purport to define the body of knowledge but rather to serve as a compendium and guide to the knowledge that has been developing and evolving over the past four decades. Now in Version 3.0, the Guide's 15 knowledge areas summarize generally accepted topics and list references for detailed information. The editors for Version 3.0 of the SWEBOK(R) Guide are Pierre Bourque (Ecole de technologie superieure (ETS), Universite du Quebec) and Richard E. (Dick) Fairley (Software and Systems Engineering Associates (S2EA)).

This book provides a comprehensive coverage of the basic theoretical work required by marine engineering officers and electrotechnical officers (ETOs), putting into place key fundamental building blocks and topics in electrotechnology before progressing to more complex topics and electromagnetic systems. Revisions will include important new material on emergent technology such as image intensifiers, the increased maritime use of LEDs, examples of ship systems including power distribution systems, and references to modern ship systems, eg. GPS, ECDIS, Radar, AIS, Comms outfits, etc. This essential text offers a truly rigorous approach to the key topic of electrotechnology.

The subjects treated in this book are those commonly required in mechanical and marine engineering, including naval architecture. The formulae are graduated to cover the subjects at all stages from technician level to degree, from cadet level to Extra First Class Certificate. Inevitably some specialised or favourite formulae will have been omitted, so after each subject a few blank pages have been provided to allow extra formulae and design data to be recorded.

This exciting new edition covers the core subject areas of arithmetic, algebra, mensuration in 2D and 3D, trigonometry and geometry, graphs, calculus and statistics and probability for Marine Engineering students. Initial examples have been designed purely to practise mathematical technique and, once these skills have been mastered, further examples focus on engineering situations where the appropriate skills may be utilised. The practical questions are primarily from a marine engineering background but questions from other disciplines, such as electrical engineering, will also be covered, and reference made to the use of advanced calculators where relevant.

Reeds Vol 11: Engineering Drawing

Reeds Vol 3: Applied Thermodynamics for Marine Engineers

Reeds Vol 4: Naval Architecture for Marine Engineers

Reeds Vol 4: Naval Architecture

Because of its inherent simplicity, graph theory has a wide range of applications engineering, and in physical sciences. It has of course uses in social sciences, in linguistics and in numerous other areas. In fact, a graph can be used to represent almost any physical situation involving discrete objects and the relationship among them. Now with the solutions to engineering and other problems becoming so complex leading to larger graphs, it is virtually difficult to analyze without the use of computers. This book is recommended in IIT Kharagpur, West Bengal for B.Tech Computer Science, NIT Arunachal Pradesh, NIT Nagaland, NIT Agartala, NIT Silchar, Gauhati University, Dibrugarh University, North Eastern Regional Institute

of Management, Assam Engineering College, West Bengal University of Technology (WBUT) for B.Tech, M.Tech Computer Science, University of Burdwan, West Bengal for B.Tech. Computer Science, Jadavpur University, West Bengal for M.Sc. Computer Science, Kalyani College of Engineering, West Bengal for B.Tech. Computer Science. Key Features: This book provides a rigorous yet informal treatment of graph theory with an emphasis on computational aspects of graph theory and graph-theoretic algorithms. Numerous applications to actual engineering problems are incorporated with software design and optimization topics. Improve test scores, master "real world" math, and stop relying on your calculator. Math Made Easy is a fast and simple approach to mental math and quicker calculation. With sections for both mathophobes and mathletes alike, this unique book will transform the way you do math. This guide is filled with practical tricks that will help you: - Calculate tips mentally with ease - Perform complex math problems entirely in your head - Transform seemingly difficult math into simple equations Do you consider yourself bad at math? There is no such thing as a bad student - only a bad teacher! It's time to give yourself another chance by learning a new way to look at math. We start with addition and subtraction to rebuild your approach from the ground up. Or are you a math champ? Learn new tricks to do problems even faster and perform calculations in your head that will leave everyone impressed. Are you planning to apply to college in the US? The redesigned SAT will include a no-calculator math section - it's going to be more important than ever. Be able to do calculations quickly and effectively on your own. Applying to grad school? Good math skills are a must for the GRE and GMAT. Plus, Math Made Easy is filled with practice questions to make sure you've got each technique down. As Socrates said, "Wisdom begins with wonder." Aren't you curious to see what you are capable of?

Introduction to Marine Engineering explains the operation of all the ship's machinery, with emphasis on correct, safe operating procedures and practices at all times. Organized into 17 chapters, this book begins with an overall look at the ship. Subsequent chapters describe the various ship machineries, including diesel engines, steam turbines, boilers, feed systems, pumps, auxiliaries, deck machinery, hull equipment, shafting, propellers, steering gear, and electrical equipment. Other aspects of marine engineering, particularly, fuel oils, lubricating oils, refrigeration, air conditioning, ventilation, firefighting and safety, watchkeeping, and equipment operation, are also described. This book will be useful to anyone with an interest in ships' machinery or a professional involvement in the shipping business. This textbook covers the theoretical, fundamental aspects of naval architecture for students preparing for the Class 2 and Class 1 Marine Engineer Officer exams. It introduces the basic foundation themes within naval architecture, (hydrostatics, stability, resistance and powering), using worked examples to show how solutions should be presented for an exam. The topics are ordered in a manner of a typical taught module, to aid the use of the book by lecturers as a compliment to a course. Importantly, this updated edition contains updated text and figures in line with

modern practice, including an update of many of the figures to three-dimensional diagrams, and a new section on computer software for naval architecture. The book also includes sample examination questions with worked examples answers to aid students in their learning.

Reeds Vol 12 Motor Engineering Knowledge for Marine Engineers

Quantum Wave Mechanics

Understanding the Status and Improving the Prospects

97 Things Every Cloud Engineer Should Know

Covering Codes

This book covers the syllabuses in Applied Mechanics for all classes of the Marine Engineers' Certificates of Competency of the Department of Transport. It will also be useful to students on BTEC and SCOTVEC engineering courses. Basic principles are dealt with beginning at a fairly elementary stage. Each chapter has fully worked examples interwoven into the text, test examples are set at the end of each chapter, and some typical exam questions are included. The prefix 'f' is used to indicate those parts of the text, and some test examples, which are of Class 1 standard.

Reeds Vol 1: Mathematics for Marine EngineersA&C Black

This is a fully revised, new edition on the topic of instrumentation and control systems and their application to marine engineering for professional trainees studying Merchant Navy Marine Engineering Certificates of Competency (CoC) as well as Electrical/Marine Engineering undergraduate students. Providing generic technical and practical descriptions of the operation of instrumentation and control devices and systems, this volume also contains mathematic analysis where appropriate. Addressing this subject area, the domain of Instrumentation Engineers/Technicians as well as Control Engineers, and covering established processes and protocols and extensive developing technology, this textbook is written with the marine engineer in mind, particularly those studying Engineering Knowledge. The content ranges from simple measurement devices, through signal conditioning and digitisation to highly sophisticated automated control and instrumentation systems. It also includes a brand new section on electrical equipment in hazardous areas detailing hazards, gas groups, temperature classifications and types of protection including increased and intrinsic safety and encapsulation, and up-to-date material on the new generation of Liquefied Natural Gas carriers, SMART sensors and protocols, as well as computer based systems.

The book covers the principal topics in applied mechanics for professional trainees studying Merchant Navy Marine Engineering Certificates of Competency (CoC) as well as the core syllabi in applied mechanics for undergraduates studying for BSc, BEng and MEng degrees in marine engineering, naval architecture and other marine technology related programmes. The revised version takes into account the need of these students, recognising recent changes to the Merchant Navy syllabus and current pathways to a sea-going engineering career, including National diplomas, Higher National Diploma and degree courses. Basic principles are dealt with, beginning at a fairly elemental stage, with this new edition applying the underlying principles to a shipping environment. Each chapter has fully worked examples interwoven into the text, with test examples set at the end of each chapter. Other revisions include examples reflecting modern machines and practice, current legislation and current syllabi.

Reeds Vol 8 General Engineering Knowledge for Marine Engineers

A Quick and Easy Guide to Mental Math and Faster Calculation

How I Became a Quant

Set-Theoretic Topology

Guide to the Software Engineering Body of Knowledge

(Swebok(r))

Praise for How I Became a Quant "Led by two top-notch quants, Richard R. Lindsey and Barry Schachter, How I Became a Quant details the quirky world of quantitative analysis through stories told by some of today's most successful quants. For anyone who might have thought otherwise, there are engaging personalities behind all that number crunching!" --Ira Kawaller, Kawaller & Co. and the Kawaller Fund "A fun and fascinating read. This book tells the story of how academics, physicists, mathematicians, and other scientists became professional investors managing billions." --David A. Krell, President and CEO, International Securities Exchange "How I Became a Quant should be must reading for all students with a quantitative aptitude. It provides fascinating examples of the dynamic career opportunities potentially open to anyone with the skills and passion for quantitative analysis." --Roy D. Henriksson, Chief Investment Officer, Advanced Portfolio Management "Quants"--those who design and implement mathematical models for the pricing of derivatives, assessment of risk, or prediction of market movements--are the backbone of today's investment industry. As the greater volatility of current financial markets has driven investors to seek shelter from increasing uncertainty, the quant revolution has given people the opportunity to avoid unwanted financial risk by literally trading it away, or more specifically, paying someone else to take on the unwanted risk. How I Became a Quant reveals the faces behind the quant revolution, offering you the chance to learn firsthand what it's like to be a quant today. In this fascinating collection of Wall Street war stories, more than two

dozen quants detail their roots, roles, and contributions, explaining what they do and how they do it, as well as outlining the sometimes unexpected paths they have followed from the halls of academia to the front lines of an investment revolution.

Engineering skills and knowledge are foundational to technological innovation and development that drive long-term economic growth and help solve societal challenges. Therefore, to ensure national competitiveness and quality of life it is important to understand and to continuously adapt and improve the educational and career pathways of engineers in the United States. To gather this understanding it is necessary to study the people with the engineering skills and knowledge as well as the evolving system of institutions, policies, markets, people, and other resources that together prepare, deploy, and replenish the nation's engineering workforce. This report explores the characteristics and career choices of engineering graduates, particularly those with a BS or MS degree, who constitute the vast majority of degreed engineers, as well as the characteristics of those with non-engineering degrees who are employed as engineers in the United States. It provides insight into their educational and career pathways and related decision making, the forces that influence their decisions, and the implications for major elements of engineering education-to-workforce pathways.

Praise for the First Edition ". . . outstandingly appealing with regard to its style, contents, considerations of requirements of practice, choice of examples, and exercises." —Zentrablatt Math ". . . carefully structured with many detailed worked examples . . ." —The Mathematical Gazette ". . . an up-to-date and user-friendly account . . ."

—Mathematika An Introduction to Numerical Methods and Analysis addresses the mathematics underlying approximation and scientific computing and successfully explains where approximation methods come from, why they sometimes work (or don't work), and when to use one of the many techniques that are available. Written in a style that emphasizes readability and usefulness for the numerical methods novice, the book begins with basic, elementary material and gradually builds up to more advanced topics. A selection of concepts required for the study of computational mathematics is introduced, and simple approximations using Taylor's Theorem are also treated in some depth. The text includes exercises that run the gamut from simple hand computations, to challenging derivations and minor proofs, to programming exercises. A greater emphasis on applied exercises as well as the cause and effect associated with numerical mathematics is featured throughout the book. An Introduction to Numerical Methods and Analysis is the ideal text for students in advanced undergraduate mathematics and engineering courses who are interested in gaining an understanding of numerical methods and numerical analysis.

This indispensable guide to ship stability covers essential topics such as flotation and buoyancy, small angle, large angle and longitudinal stability, water density effects, bilging, ship resistance, and advanced hydrostatics. Each chapter has a comprehensive list of aims and objectives at the start of the topic, followed by a checklist at the end of the topic for students to ensure that they have developed all the relevant skills before moving onto the next topic area. The book features over 170 worked examples with fully explained solutions, enabling students to work through the examples to build up their knowledge and develop the necessary key skills. The worked examples, which range in difficulty from very simple one-step solutions to SQA standard exam questions and above, are predominantly based on a hypothetical ship. The reader is supplied with

extracts from a typical data book for the ship which replicates those found on actual ships, enabling the reader to develop and practise real-life skills. This edition has been fully updated in line with the recently changed rules and regulations around ship stability and the updated national exam syllabus. Updates include corrections and clarifications to worked examples, new text on damaged stability and probabilistic stability, extra content on hydrostatic forces and centres of pressure, and extra content on stability information for small craft.