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WORLD SCIENTIFIC LOW PRICE EDITIONS

Contents

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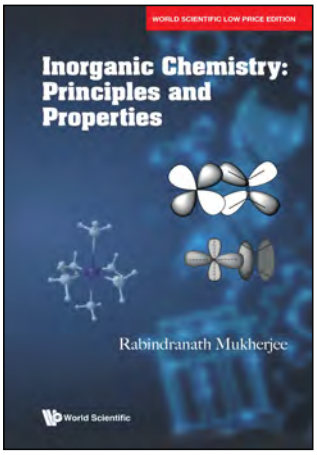
New Releases

CHEMISTRY



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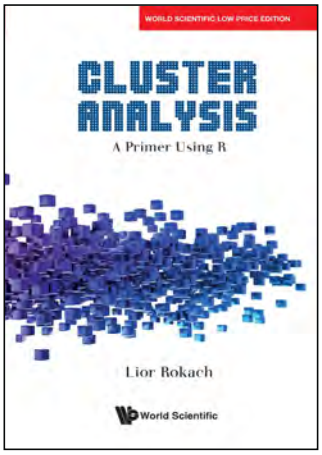

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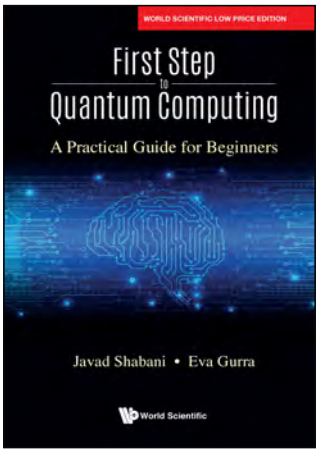

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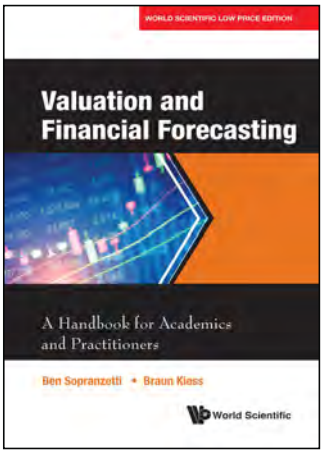
ECONOMICS & FINANCE



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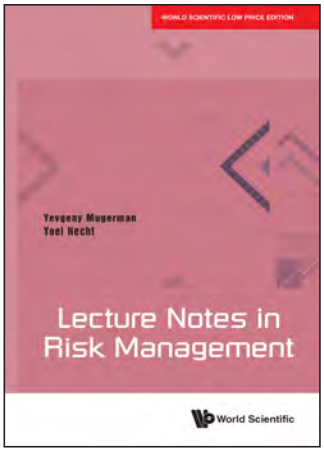

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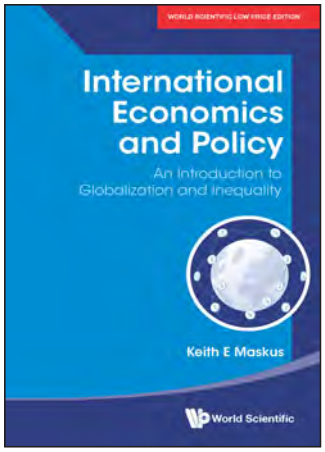

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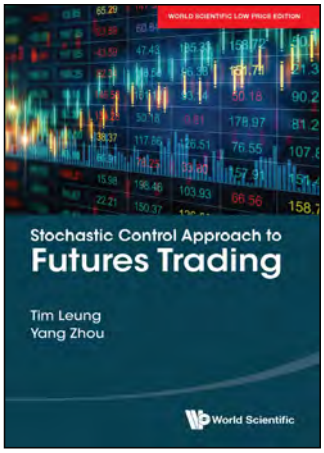

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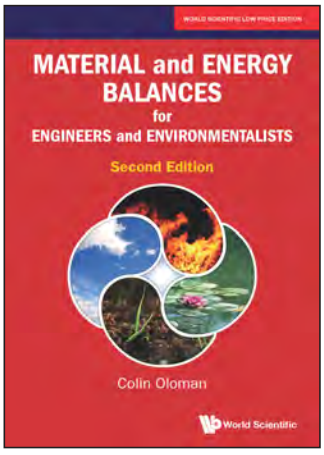
ENGINEERING



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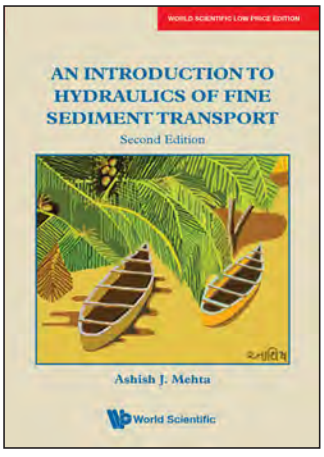

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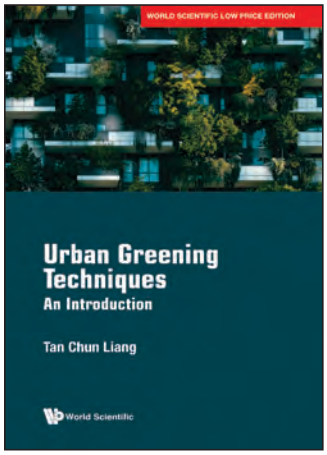

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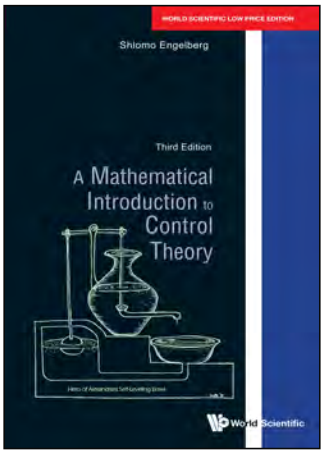

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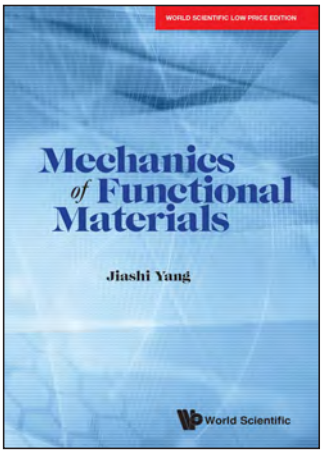
New Releases

ENGINEERING



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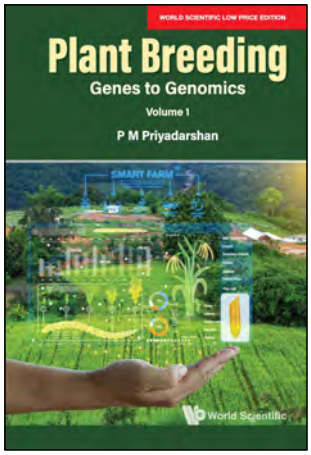
LIFE SCIENCES/AGRICULTURAL SCIENCES



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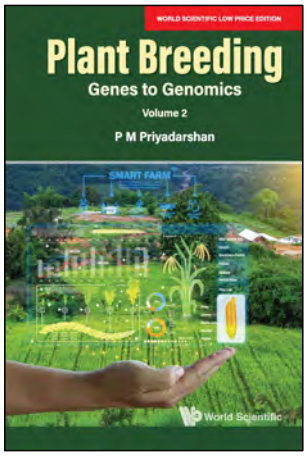

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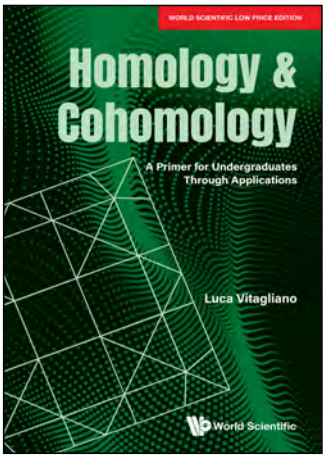

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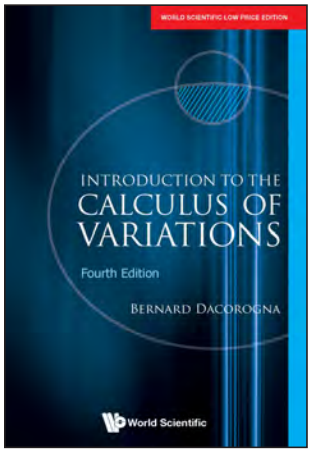

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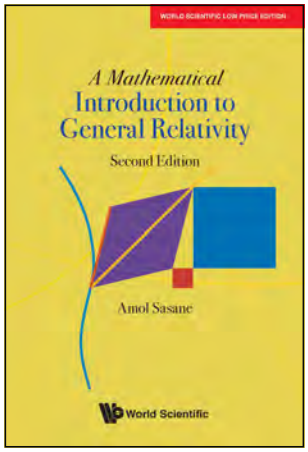

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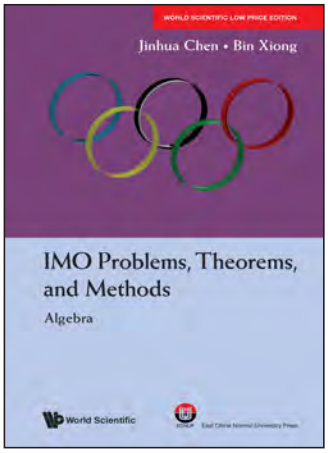

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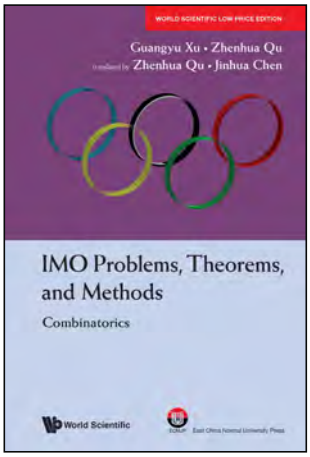

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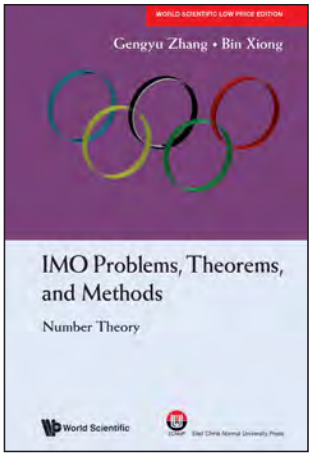

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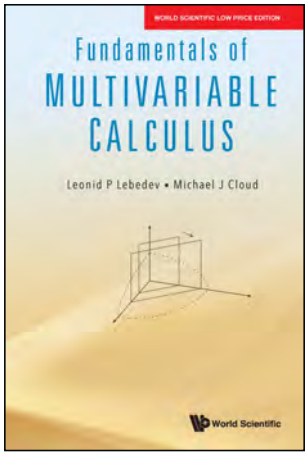

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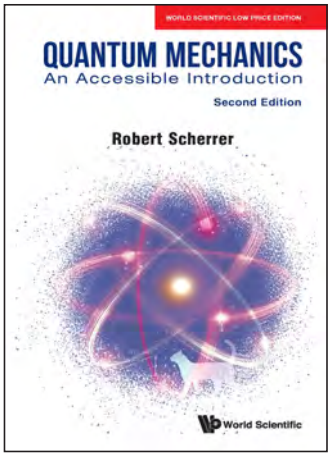

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New Releases

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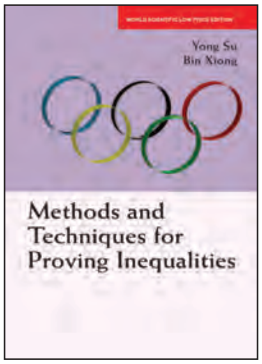

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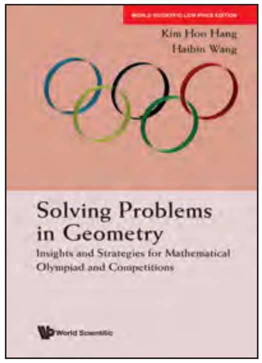

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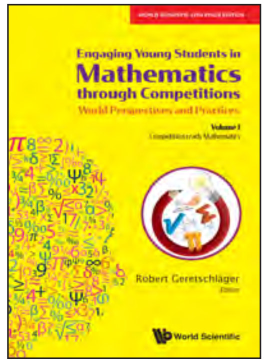

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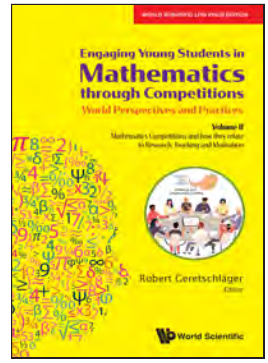

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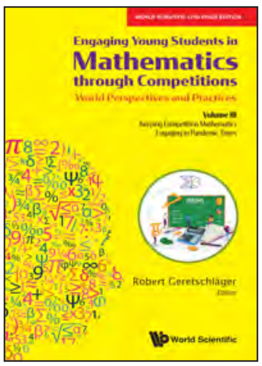

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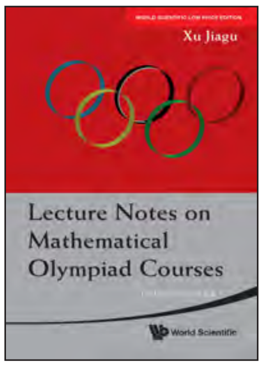

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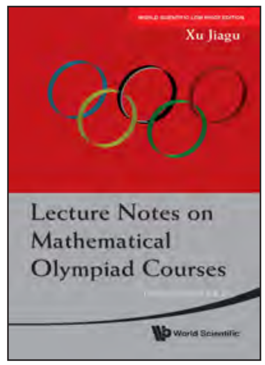

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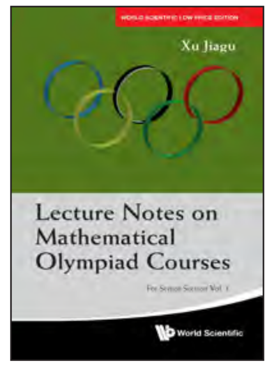

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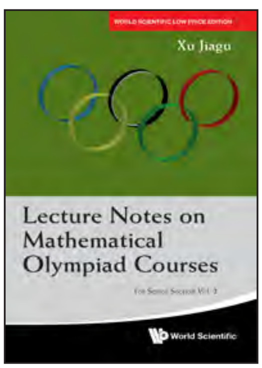

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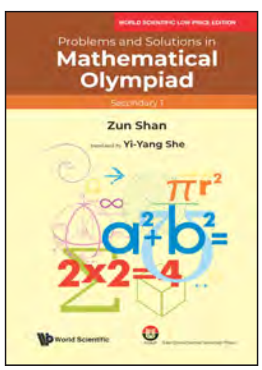

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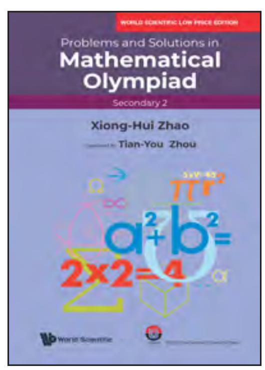

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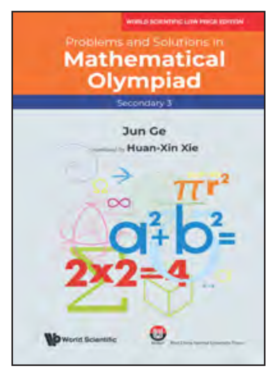

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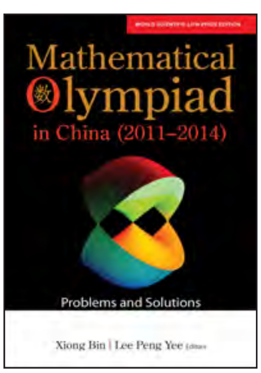

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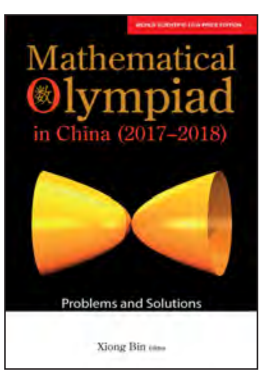

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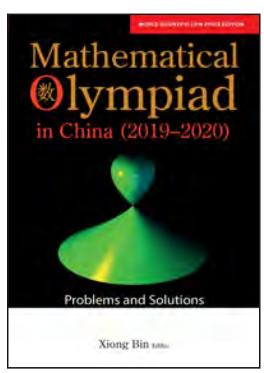

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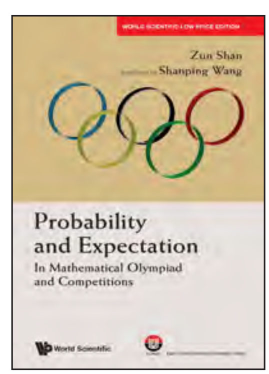

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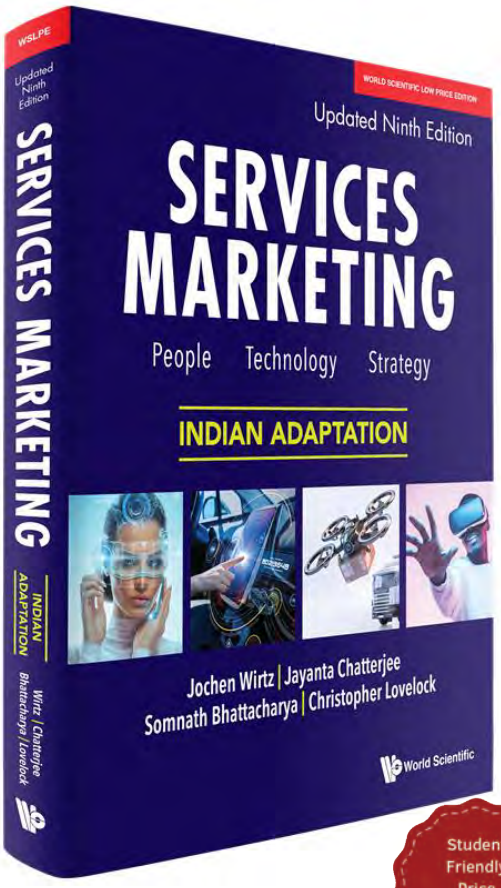

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- Key topics have Master Class Videos linked to the respective chapters that are accessible via QR codes.
- New applications of technology are integrated throughout the text, ranging from service robots, artificial intelligence (AI), and intelligent automation (IA), to peer-to-peer sharing platforms and digital business models.
- *and more*.

Key Features

Indian Industry Examples: Chapters are enriched with examples from Indian service companies to illustrate key theoretical concepts in a locally relevant context

Contemporary Business Model Innovations: The book highlights recent innovations and evolving business models across diverse service categories in India, showcasing how organizations are adapting to dynamic market conditions

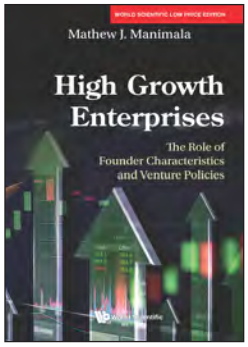
Case-Based Insights: Includes two concise case studies covering four Indian service organizations. These cases explore varied challenges and responses within India's multicultural environment, offering readers a nuanced understanding of service sector dynamics

Supplementary Material Resources: Resources are available to instructors who adopt this textbook for their courses. These include: (1) Instructor's Manual, (2) Case Teaching Notes, (3) PowerPoint deck, and (4) Test Bank.

Visual aids promote learning and organizational frameworks capture essence of individual chapters in one look.

Content thoroughly revised to include real-life industry examples and global case studies supported by academic research.

Supplementary teaching materials complement the textbook to make teaching and assessment easier.

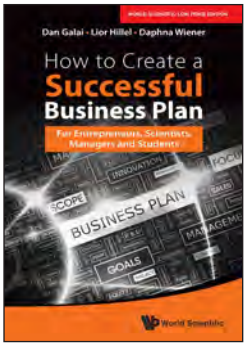


High Growth Enterprises
The Role of Founder Characteristics and Venture Policies
By Mathew J. Manimala
ISBN 9798886131147 • PB • 272pp
Original Price US$98
Indian Edition at Rs 1450 • Year 2024

The phenomenon of enterprise growth is more a function of the nature of the entrepreneurial person and the policies and strategies adopted by a venture rather than the economic and environmental factors such as profitability or industry growth. This book focuses on the role of founder characteristics and venture policies in promoting enterprise-growth, with special focus on High Growth Enterprises. The research reported in this book is triggered by the that almost 95% of business start-ups either get closed down or stagnate, with only about 5% taking to a growth path, even though many more of them are profitable. The study presented in the book investigates the relationships between enterprise growth and venture policies as well as entrepreneurial characteristics such as the traits, motives and background of entrepreneurs. It also identifies the general entrepreneurial characteristics and points to the need for reviewing/redefining some of the concepts traditionally associated with entrepreneurship, such as achievement motive, power motive, desire for independence, risk-taking ability, support and encouragement, etc.

Contents

Readership: Advanced graduate and post-graduate students, researchers and practitioners in the fields of Entrepreneurship and New Venture Management.

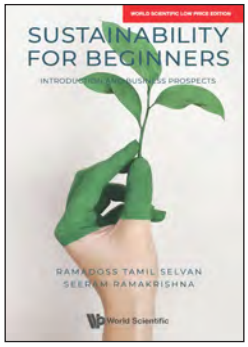


How to Create a Successful Business Plan
For Entrepreneurs, Scientists, Managers and Students
By Dan Galai, Lior Hillel and Daphna Wiener
ISBN 9780000991607 • PB • 332pp
Original Price US$29
Indian Edition at Rs 1395 • Year 2024

How can all the nuts and bolts of a business be analyzed effectively in one comprehensive model and translated into a business plan? At various points in the life of a business, entrepreneurs will need to take stock of their ideas and plans and reformulate them in business and financial terms. *How to Create a Successful Business Plan* is about dynamic planning for businesses and provides a structured approach to business planning that focuses on the main components of the business model, while addressing key issues often raised by investors and potential business partners. It gives the company order and structure and helps managers optimize team integration and resources. The book provides a framework in which professionals from a broad range of backgrounds can work together on a successful business plan. Readers will find that the business model is discussed in depth, yet in accessible and easily understood terms.

Contents

Readership: Undergraduate and graduate business and management students; independent entrepreneurs; executives (in high-tech firms or in the more established industries); investors (such as angels or venture capitalists); and other potential business partners and service providers.

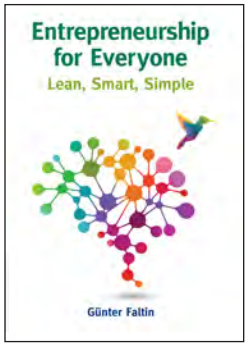


Sustainability for Beginners
Introduction and Business Prospects
By Ramadoss Tamil Selvan and Seeram Ramakrishna
ISBN 9798886130607 • PB • 256pp
Original Price US$48
Indian Edition at Rs 2195 • Year 2024

This book provides a basic introduction to Sustainability & Sustainable Developments, integrated with current business models and future business prospects. In 10 chapters, the authors cover a wide array of topics comprehensively, in an accessible style of language that will appeal to the uninitiated. Many eye-catching self-illustrated artworks, coupled with in-depth analyses of numerous case studies, allow the reader to grasp the theoretical concepts with ease. Multiple-choice exercises at the end of every chapter (with answers provided) further aid readers in verifying their own understanding. *Sustainability for Beginners* hopes to encourage effective learning, improve abstract thinking, and culminate sustainable entrepreneurship among students and innovators.

Contents:

Readership: The book primarily targets undergraduate and graduate students enrolled in Business schools and related majors such as Economics, Environmental Science, Material Science, and Engineering. Emerging entrepreneurs, higher academics, industry professionals working in investment and financial sectors, as well as start-ups will also be interested.

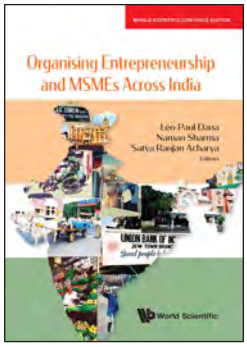


Enterprenurship for Everyone
Lean, Smart, Simple
By Günter Faltin
ISBN 9780000987389 • PB • 216pp
Original Price US$18
Indian Edition at Rs 699 • Year 2019

Entrepreneurship is not a calling only for the selected few. Creative work and economic self-realization are goals that anyone can pursue. Learn how to create your own "idea-masterpiece" as a collage or puzzle made from existing pieces, and construct your own company from pre-existing components that are freely available to everyone. Brains versus Capital: Entrepreneurship for Everyone opens up many channels of opportunity for many people who never thought that they would start their own company. This book emphasizes knowledge-based start-ups, which offers a crucial difference to classic self-employment and the new technology based start-ups. Günter Faltin has been teaching this approach for decades, and he has applied his theoretical concept with great success to "The Tea Campaign" (Teekampagne), the largest mail-order tea company in Germany. A growing number of companies uses Professor Faltin's principles successfully. Featuring practical examples of successful companies, Günter Faltin shows how anyone can refine an idea to create a new company. By combining components that already exist, a small start-up founder could even challenge the big companies.

Contents
Introduction: All Roads Lead to Rome • The Tea Campaign as a Case Study • Start-Ups: Creative Concepts, Not High-Tech • The Step-Child Concept: It Pays to Fine-Tune Your Concept • Avoiding Overload • Building a Business with Components • Playing in the Big Boys' League • The Entrepreneurship Laboratory: How to Work Out Your Own High-Potential Concept • Entrepreneurship as a Challenge • Say Goodbye to Old Ways of Thinking: Do Not Draw Conclusions About the Future Based on the Past • An Invitation to a Dance • Appendix • Acknowledgements • About the Author • References

Readership: Students, practitioners and general public interested in entrepreneurship and founding businesses.



Organising Entrepreneurship and MSMEs Across India
Edited By Léo-Paul Dana, Naman Sharma, Satya Ranjan Acharya
ISBN 9780000989925 • PB • 300pp
Original Price US$108
Indian Edition at Rs 1195 • Year 2021

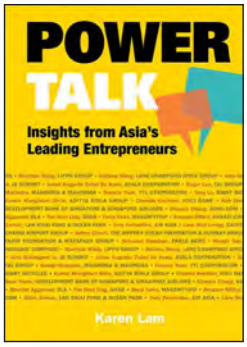
In order to sustain their ventures in the Indian market, businesses developed an ecosystem to promote their current and future business. Over time, more and more small business owners emerged and organised their own settings to sustain business activities.

Contemporary times challenge emerging economies — like India — to adopt entrepreneurship in order to boost its economy. Micro, Small & Medium Enterprises (MSMEs) are the preferred way of addressing these challenges; however, the ecosystem required to promote these MSMEs poses significant challenges and requires change to be sustainable.

This book examines original case studies, quantitative studies and qualitative research highlighting the organisation of new business, reflecting a wide range of sectors across India. The book offers new insights to budding entrepreneurs to help organise new & established firms to infuse entrepreneurial intentions among the workforce.

Contents
India • Entrepreneurship in India • Entrepreneurship Policy and Support Framework in India • MUDRA — A Resourceful Resolution Bank of India • Leadership Styles to Aid Building Innovative, Agile, and Resilient Organizations • SMEs and Digital Marketing Design • Effective Corporate Social Responsibility in Small and Medium Enterprises • Entrepreneurship in Punjab • A Woman's Perspective of Entrepreneurship in MSME Family Businesses • Financing Businesses in India: An MSME Sector Viewpoint • Bank's Contribution Towards Financing MSMEs in Assam • Surmounting the Resource Crunch

Readership: Students, academicians, researchers and practitioners in the fields of Entrepreneurship and Micro, Small and Medium Enterprises.



Power Talk
Insights From Asia's Leading Entrepreneurs
By Karen Lam
ISBN 9789813236202 • PB • 244pp
Original Price US$28
Indian Edition at Rs 599 • Year 2018

What drives success in Asia?

How did the pioneers do what they did, how are they planning their succession?

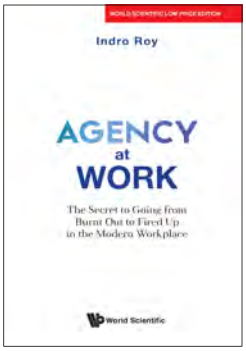
What are their views on life and family?

After six seasons of Channel News Asia's Power List Asia, with 73 episodes high-powered guests, over 26,000 manhours of pre- and post-production and 130,000 airmiles, comes Power Talk. Distilling the very best and most memorable conversations with various head honchos, Karen Lam sits down (not on television this time) to compile the best business ideas, personal philosophies, attitudes and intriguing stories into common themes of leadership and entrepreneurship in Asia.

Featuring more than 20 Powerlisters and a range of topics such as crisis management, brand building, expanding westward and succession planning, Power Talk is a must-read for any Asian entrepreneur on the cusp of that next league.

Contents
- The Pioneers
- Succession
- East Goes West
- Growing Local Brands
- Tech Upstarts
- Crisis Management
- Leader as Communicator
- Philanthropy

Readership: General public.



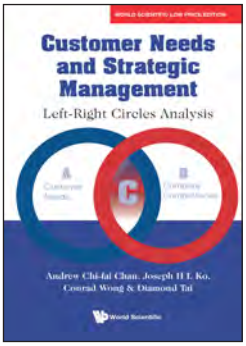
Agency at Work
The Secret to Going from Burnt Out to Fired Up in the Modern Workplace
By Indro Roy
ISBN 9798886131628 • PB • 260pp
Original Price US$36
Indian Edition at Rs 1350 • Year 2025

Burnout, anxiety, and disconnection are at crisis levels. This book introduces agency — a proven, practical framework to thrive in the modern workplace.

With burnout surging, Agency at Work offers a powerful and refreshing solution: reclaiming your personal, social, and growth agency to restore control, motivation, and meaning in your career. Drawing on real-world insights from thriving outliers — professionals who flourish despite overwhelming work conditions — Indro Roy presents 10 actionable rules that empower you to break free from frustration and stagnation. From time-boxing your tasks and reverse networking, to assembling a personal board of advisors, each chapter provides field-tested strategies that you can apply immediately to take ownership of your work, well-being, and future.

Contents
- **The Nature of Modern Work:**
  - Overwhelmed, Anxious, and Frustrated
  - What Is Modern Work?
  - Measuring Agency: The Thrive Index
- **Personal Agency:**
  - Rule #1: Bring Your Own Motivation
  - Rule #2: Let Your Consumer Judge Your Work
  - Rule #3: Focus on Aspirations (Future) and Actions (Now)
  - Rule #4: Press Refresh Every Week Wins, Learnings, and Plans
- **Social Agency:**
  - Rule #5: Expand Your Relationship Radius
  - Rule #6: Seek Our Difference
  - Rule #7: Build a Personal Board of Advisors
- **Growth Agency:**
  - Rule #8: Learn in the Flow of Work
  - Rule #9: Stack Skills to Rise Up
  - Rule #10: Run a Side Hustle
- **High-Agency Organizations:**
  - For CEOs
  - For Team Leaders
  - For HR Leaders

Readership: Academics, professionals, undergraduate & graduate students interested in customer relationship management, strategic management, marketing strategy, & customer needs.



Customer Needs and Strategic Management
Left-Right Circles Analysis
By Andrew Chi-fai Chan, Joseph H L Ko, Conrad Wong & Diamond Tai
ISBN 9798886131116 • PB • 184pp
Original Price US$78
Indian Edition at Rs 1295 • Year 2024

This book develops a "Left-Right Circles" theory where customer needs are depicted as the "Left Circle". The book also analyzes various levels of customer needs and the key approaches to satisfying those needs. The "Right Circle" in this theory depicts how a company develops its own strengths as competencies. The book describes how the Left and Right Circles interact, move in sync in a perfectly harmonious manner, offer products and services that customers will repeatedly purchase, and thereby builda strong base of loyal supporters for the company. The Left Circle driven approaches are applicable equally to serving customers and stakeholders. The approaches apply effectively to non-profit organizations as well as to profit-making companies. The theory can also be extended to interpersonal relationships, helping to enhance harmony and joy in personal lives.

Contents
- What is "Left-Right Circles"?: Overview of Left-Right Circles with Areas A To E
- Guided by the Left Circle: Using Left Circle as a Guide for All Approaches
- Dynamic Left Circle
- Identifying New Needs and New Customers
- Internal Left Circle: Important Roles of Company's Own Staff
- Left Circle of Left Circle: Exploring and Capitalizing on People Influencing Left Circle
- Turning Left into Right: Turning Left Circle into Company's Strong Supporters to Increase Its Strength
- Unrecognized Needs
- Seemingly Unrelated Left Circle: Exploring Non-apparent Left Circle for Better Results
- Summing Up Left-Right Circles with Four Axioms

Readership: Academics, professionals, undergraduate and graduate students interested in customer relationship management, strategic management, marketing strategy, and customer needs.

Leadership, 2nd Edition
Leaders, Followers, Environments
By Laura Gail Lunsford & Art Padilla
ISBN 9798886131130 • PB • 420pp
Original Price US$55
Indian Edition at Rs 1695 • Year 2024

Leadership is more than a being a leader.

This textbook presents a holistic and readable overview of leadership. The dynamics of leadership involve leaders, followers and their environments — the organizational contexts within which leading and following take place. This triangle approach illustrates a more comprehensive view of leadership by focusing on all three dynamics.

Students benefit from taking the evidence-based inventories to learn more about their leadership preferences. Six in-depth case studies add to the textbook and invite students to explore the application of leadership theory to practice. Each chapter ends with key terms, comprehension questions, and class activities.

Chapters in this book draw on contemporary research and mini-cases to engage students in learning about themes of leadership focused on topics such as: ethics, effective communication, teams, mentoring, and toxic leadership. This book features integration of the case studies in the chapters along with updated literature and mini-cases. Chapter summaries, test banks, sample syllabi, and slide decks, designed by the authors, are a new addition for instructors.

Contents:
- Leadership Spotlights
- Prologue
- On Leadership
- Self-awareness and Skill Development
- The Leaders
- The Followers
- The Environments
- Toxic Leadership
- Epilogue
- Case Studies
- Index

Readership: Advanced undergraduates, undergraduates in honours programs, graduate students, practitioners and consultants, civic organisations, organisational leaders, businesses in leadership development or executive education programs.

Positive Influence
The First and Last Mile of Leadership
By Tsun-yan Hsieh and Huijin Kong
ISBN 9798886130010 • PB • 360pp
Original Price US$29.95
Indian Edition at Rs 1195 • Year 2024

New York Times bestselling author and renowned leadership guru Tsun-yan Hsieh, together with his LinHart partner Huijin Kong, co-creator of high-impact programs, dive deep into how to master +Influence, an essential "soft skill" of our times. Combining decades of experience from shopfloors to boardrooms, both in the West and the East, the authors have distilled the principles of '+Influence' to a repertoire of mindsets, habits and skills.

Richly illustrated with real-life examples, this book will help you achieve an elevated level of empathy for where others are coming from, and better equip you to find mutually beneficial paths out of conflicts while promoting alignment around the goals that matter. Whether you are a CEO or professional, it will inspire you to hone +Influence into a craft over time that will propel your career and personal relationships, with more of your humanity gaining greater expressions in every moment of influence.

Contents

Fundamentals of Influence:
- +Influence in the Context of Interactions
- What Makes a Good +Influence
- Just How Good Are You at +Influence?
- Why All of Us Can Be Better at +Influencing
- +Influencing Against All Odds

Transform Your +Influencing Effectiveness:
- The Basics of +Influence
- +Influencing in the Moment
- Habits to Raise Proficiency in +Influencing
- Aligning Our Being to +Influence
- +Influencing Through the Written Media

Becoming Your Better Self Through +Influence:
- From +Influence to Development
- How Others Can Help You Develop
- From +Influence to Leadership
- Shop Floors, Boardrooms, and the Great Cultural Divide
- Conduct, Craft, and Character

Readership: This is a book for both senior leaders and upwardly mobile professionals of all ages, including students at the undergrad and MBA level (re-)entering the workplace.

The Friday Email
88 Tips for Aspiring Leaders
By Renée McGowan
ISBN 9798886130287 • PB • 240pp
Original Price US$22
Indian Edition at Rs 1495 • Year 2024

Leveraging Renée McGowan's weekly emails to colleagues in Asia and the Middle East over three years that included the global pandemic, this playbook showcases insights on how to stay at the top of your game. With a nod to the Asian lucky number, 88 tips provide bite-sized advice about purpose, people, path and progress. Each section is packed with useful examples and relatable how-tos and demonstrates that you can be a successful business leader with empathy, humanity and some fun.

Contents

Why I Have Written This Book
Purpose:
- Growth and Grit
- Fuel Your Energy

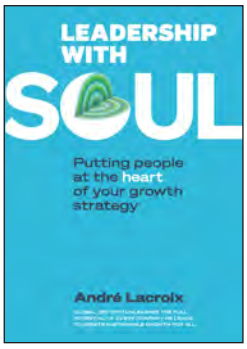
People:
- When Everyone Wins
- To Make a Difference, Celebrate Differences

Path:
- No, You Can't Break Up with Change
- You Don't Know It All

Progress:
- Tapping Your Creative Genius
- Lessons I Wished I Learned Earlier

8 Tips for Women Leaders
If I Could Only Tell You ONE Thing
More About This Work in Progress

Readership: Emerging leaders; young professionals aspiring to leadership roles; managers interested in effective leadership, growth strategies, and building a resilient and inclusive company culture; female leaders; women in male-dominated industries who are seeking guidance on navigating gender biases and fostering inclusive environments



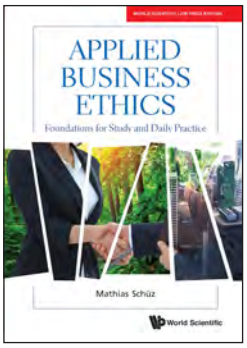
Leadership with Soul
Putting People at the Heart of Your Growth Strategy
By André Lacroix
ISBN 9781944660550 • HB • 280pp
Original Price US$35
Indian Edition at Rs 2195 • Year 2023

Leadership with Soul is an invitation for existing and future leaders to stop, think and reinvent their leadership approach to become ever-better leaders. *Leadership with Soul* is a cutting-edge, systemic leadership model that has created sustainable growth and value in high-performance companies across several sectors of the economy. Anyone, from a management student to a global CEO, who wants to become a more inspirational leader and achieve better outcomes, will benefit.

André Lacroix reveals his formula on how to make businesses flourish. He uses his universal humanist principles that have been developed over a long, diverse and outstanding leadership career. He also explains simple ways you can inspire a global organisation to outperform the competition; how you can create a truly customer-centric organisation; how best to inspire people to follow the lead set at the top, and how to leave a sustainable legacy for the generations to come. For Lacroix, true leadership prioritises sustainability and a desire to make the world an 'ever-better' place for everyone and many of the largest corporations are now adopting the sustainability solutions he envisioned.

Contents

- Preface: Time for Change
- Introduction: Leadership with Soul — The Early Years
- Lead with Emotional Intelligence (EQ)
- Imagine the Journey and Paint the Picture for All
- Energise the Organisation to Outperform
- Customer Intimacy
- Reinvent the Future
- Master Complexity
- Embody the Strategy at the Top
- Laser-focused Execution
- Ever Better Branding Glo-cally
- Sustainable Performance for All
- Lead with Soul — For Good

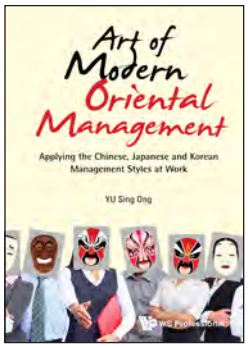


Applied Business Ethics
Foundations for Study and Daily Practice
By Mathias Schüz
ISBN 9780000988423 • PB • 396pp
Original Price US$48
Indian Edition at Rs 1695 • Year 2020

What has ethics got to do with my job? How can I take on ethical responsibility and help to make my company more successful at the same time? Although 'ethical responsibility' has become something of a catchphrase these days, most people only have a vague idea what it means and how it can be demonstrated in actual practice. This textbook, *Applied Business Ethics*, is the result of many years of research work and lecturing, and is an attempt to present the most important principles and the latest approaches in business ethics to students, teachers, and business practitioners alike, and help them to make business decisions that everyone concerned will benefit from, rather than just a few fortunate stakeholders. The author illustrates his theoretical subject matter with practical examples of real-life situations and provides numerous exercises to help the reader grasp complex issues, moral dilemmas, and business risks better. In clear, accessible, and easily understandable terms, he demonstrates how ways of finding satisfactory solutions can be found in a systematic way.

Contents
Responsibility in Companies
Traditional Ethics in Companies
Recent Ethical Approaches to Business
Outlook: Conclusions About Responsible

Readership: Students, academics and practitioners in business ethics.



Art of Modern Oriental Management
Applying the Chinese, Japanese and Korean Management Styles at Work
By YU Sing Ong
ISBN 9789813220324 • PB • 272pp
Original Price US$38
Indian Edition at Rs 895 • Year 2017

This book aims to present an overview of Chinese, Japanese and Korean modern management styles. The cultures of China, Japan and Korea are influenced by Confucianism, Daoism and Buddhism. As such, there are some basic similarities in their management styles. As business operations become more internationalised, the management styles among Chinese, Japanese and Korean companies have blurred the lines of distinction between Western and Eastern cultures. The need for Western managers to adapt to Asian way of doing business, and likewise for Asian companies to understand Western business practices, means that managers have to bridge the gaps and adopt the best management practices containing both Western and Eastern elements.

Unlike the traditional approach of setting clear differentiation between Western and Eastern cultures, this book looks at Oriental management from a modern perspective, that is, the fusion of Western and Eastern management styles. By using a multifaceted approach to understanding modern Oriental management, the author stresses the complexities of the business environment in China, Japan and Korea. He suggests that Western theories of management are applicable to Eastern cultural context with some adaptations to the local environment. The author also offers valuable insights into the management styles of Oriental managers by providing a critical perspective of their thought processes in simple yet highly relevant illustrations of models and frameworks. This book is recommended for those who are interested in attaining a deeper knowledge of Oriental management practices.

Contents
Influences of Philosophy and Religion • Cultural Sensitivities • Chinese Management Styles • Sun Tzu Art of Management • Japanese Management Styles • Korean Management Styles • Comparison of Chinese, Japanese and Korean Management Styles • West Learning from East • References • Index

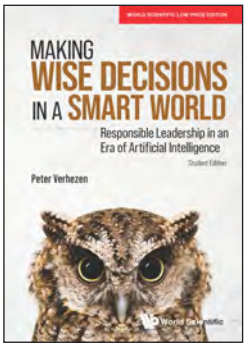
Pricing of Products and Services
By Tridib Mazumdar
ISBN 9780000990082 • PB • 376pp
Original Price US$98
Indian Edition at Rs 2150 • Year 2021

The price of a product or a service is a critical element of the marketing mix. Price influences product demand, and the firm's revenue, and profits. Prices also signal product quality and value, customer self-image, and the seller's pricing practices. With appropriate balance of theory, applications, and analytics, this book provides business students and practitioners the tools to make profitable pricing decisions under a variety of real-life contexts – current and emerging.

Theoretical foundations for pricing decisions come from microeconomics, psychology, and behavioral decision theories. Well-established economic principles, with available data and analytics, help firms customize prices based on customers' willingness to pay, quantity purchased, timing and urgency of purchase, and by bundling their products and services. Pricing and promotional strategies of firms are further informed by the consideration of consumer psychology as well as the decision rules that consumers employ in framing of and responding to prices.

As a practical step-by-step guide for firms, the book presents a comprehensive framework for pricing decisions. The framework illustrates how firms' pricing decisions are shaped by customer valuation of the product or service, firm cost, and competition within the category. Additional considerations include: channel arrangements, legal and regulatory limits, public sentiments, and the overriding strategy for the firm. Short cases and numerical examples help illustrate how these factors can be incorporated by firms in making pricing decisions. In addition to offering the theoretical foundation and practical guidelines for pricing, there are several distinctive features of the book.

Contents
Theoretical and Analytical Foundations of Pricing • Considerations in Pricing Decisions by Firms • Pricing Strategy Applications • Concluding Comments

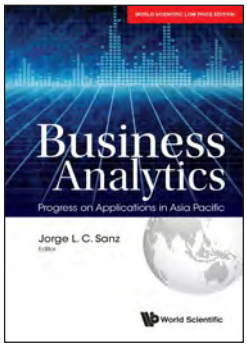


Making Wise Decisions in A Smart World
Responsible Leadership in an Era of Artificial Intelligence (Student Edition)
By Peter Verhezen
ISBN 9798886131185 • PB • 400pp
Original Price US$38
Indian Edition at Rs 1695 • Year 2025

Good and smart decisions should be distinguished from wise decision-making — especially in the age of artificial intelligence (AI) where algorithms are increasingly used to automate business processes or to augment the accuracy and speed of decisions. This book argues why specific forms of intelligence as well as consciousness and enhanced conscience are crucial to make wise decisions — with consciousness to be clearly distinguished from intelligence. It also addresses why machine learning and smart computers (AI) are plausibly able to make "smart" (and thus to a certain extent "intelligent") decisions but definitely unable to help us to become wiser. In essence, optimizing a desired output in a business context will require a balanced approach with cognitive awareness and ethical reflection — synthesizing intuitive and algorithmic thinking — encompassing short-term profit and longer-term envisioning, and aiming to optimize created and captured value for shareholders while taking the concerns of those who have a real stake in the organization seriously. If business is about creating and sharing value in a future that is both "digital" and "relational", then innovative technologies like AI will play an increasingly important role.

Contents
- The Future Is "Relational": Making Wise Decisions in the Boardroom
- The Future Is Digital: Smart Decisions in an Era of Artificial Intelligence
- Learning: Artificial Intelligence Versus Human Intelligence
- Artificial Intelligence as a New Delphi Oracle in Uncertain Times?
- Making Wiser Decisions: Through Paradoxal and Algo-Tuitional Thinking

Readership: Corporate leaders, academics, students, and anyone interested in topics related to artificial intelligence and a smarter world.

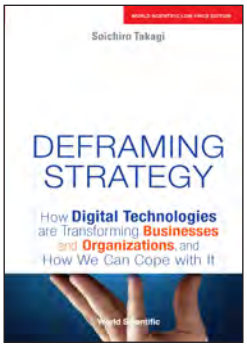


Business Analytics
Progress on Applications in Asia Pacific
By Jorge L C Sanz
ISBN 9780000988485 • PB • 884pp
Original Price US$98
Indian Edition at Rs 1895 • Year 2023

The rapid development of Business Analytics is impacting all enterprise competences profoundly and classical business professions are being redefined by a much deeper interplay between business and information systems. As computing capabilities for analysis has moved outside the IT glass-house and into the sphere of individual workers, they are no longer the exclusive domain of IT professionals but rather accessible to all employees. Complex open-source data analytics packages and client-level visualization tools deployed in desktops and laptops equip virtually any end-user with the instruments to carry out significant analytical tasks. All the while, the drive to improve 'customer experience' has heightened the demand for data involving customers, providers and entire ecosystems.

Contents
Leveraging of Big Data from Manufacturing Facilities to Create New Business Insights
Price Erosion and Sales Volume Analysis of China Smart-Phone Market
Supply Chain Analytics
Storage Technologies for Data Reservoir
Exploring Accuracy and Efficiency of Preventive
Estimation of Queue Length and Analysis of Reneging Effects in a Bank Branch Setting
Customer Insights for Insurance Companies
Establishing the Liquidity Profile of Non-Maturity Demand Products
Skin Care Product Aggregator
On the Possibility of Arbitrage Around Announcements
For complete table of contents, email us at marketing@feelbooks.in

Readership: Postgraduate students taking Business Analytics as a specialization or an elective module in their Business Management studies.

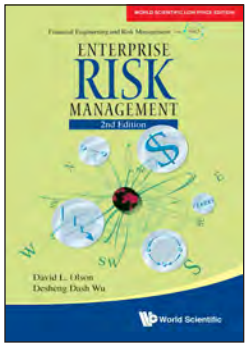


Deframing Strategy
How Digital Technologies are Transforming Businesses and Organizations, and How We Can Cope With It
By Soichiro Takagi
ISBN 9781944660253 • PB • 176pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2022

Deframing Strategy describes how digital technologies are changing the world. Rather than simply showing cases on digital applications, this book deeply analyses the fundamental shift in the society caused by digital transformation (DX), from an economic perspective. Based on the three elements of 'deframing' — dissolution and reintegration, specific-optimization, and individualization — it discusses how digital technologies are affecting the industrial structure, business models, and workstyles. The arguments presented in the book are backed up by a wide range of applications such as mobile payments, shared economy, food delivery, retail transformation, mass customization, co-working spaces, and social media marketing, throughout the world. The importance of 'deframing' has increased significantly during the ongoing COVID-19 pandemic period, where incumbent businesses and economies have had to strengthen themselves to respond to the turbulence. Originally published in Japanese in 2019, this book contains updated case studies and data that are particularly important in responding to economic and social evolutions.

Contents
Introduction
Part I: Introduction of Deframing: The End of "Economies of Scale" • Deframing Mechanism
Part II: The Process of Deframing: Dissolution and Reintegration • Specific-Optimization • Individualization
Part III: Organizations and Individuals in the Age of Deframing: Trust in the Deframing Society • Personal Strategies in the Age of Deframing • Challenges and Prospects of Deframing • Afterword • Index

Readership: Practitioners in business, Corporate executives, Researchers and students in management and economics.



Enterprise Risk Management, 2nd Edition
By David L Olson & Desheng Dash Wu
ISBN 9780000988607 • PB • 244pp
Original Price US$88
Indian Edition at Rs 1195 • Year 2020

Risk is inherent in business. Without risk, there would be no motivation to conduct business. But a key principle is that organizations should accept risks that they are competent enough to deal with, and "outsource" other risks to those who are more competent to deal with them (such as insurance companies).

Enterprise Risk Management (2nd Edition) approaches enterprise risk management from the perspectives of accounting, supply chains, and disaster management, in addition to the core perspective of finance. While the first edition included the perspective of information systems, the second edition views this as part of supply chain management or else focused on technological specifics. It discusses analytical tools available to assess risk, such as balanced scorecards, risk matrices, multiple criteria analysis, simulation, data envelopment analysis, and financial risk measures.

Contents
Perspectives: Enterprise Risk Management • The Financial Perspective • The Accounting Perspective • Supply Chain Risk Management • Disaster Planning
Tools: Risk Matrices in Risk Management • Balanced Scorecards • Multiple Criteria Analysis • Simulation Risk Modeling • Credit Risk Analysis • DEA and Chance Constrained Models of Risk
Application: Finance Risk Concepts • Accounting Risk Case in Ireland • Supply Chain Technology Risk Cases • Earthquake Disaster Response in China

Readership: Researchers interested in enterprise risk management: advanced undergraduates and graduates in business.

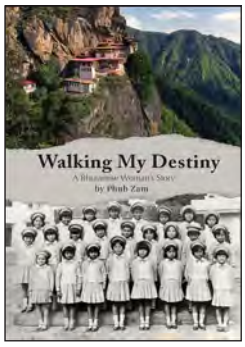
The End of Online Shopping
The Future of New Retail in An Always Connected World
By Wijnand Jongen
ISBN 9789813274761 • PB • 304pp
Original Price US$24.90
Indian Edition at Rs 699 • Year 2018

Retail is going through difficult times and is suffering the consequences of both the economic crisis and the digitization of society. Fundamentally, there is a bigger problem: stores cannot keep up with the changing behavior of customers who are connected 24/7, customers for whom there is no distinction between online and offline.

The book describes how the smart, the sharing, the circular, and the platform economy are shaping a new era of always connected retail. Retailers urgently need to innovate if they want to stay relevant in a world dominated by marketplaces and sharing platforms. The book contains inspiring examples from different industries — which include the usual suspects such as Amazon, Alibaba, and Google, but also local startups — and covers all aspects of the customer journey, from orientation and selection to delivery. The End of Online Shopping provides an excellent overview of shopping trends and developments worldwide, and offers readers indispensable insights into the future of retail.

Contents
Introduction • The Onlification of Society • Onlife Retail in Smart Economy • Consumers in the Sharing Economy • Sustainable Shopping in the Circular Economy • Winner Takes All in the Platform Economy • Power to the Onlife Consumer • Orientation: The N=1 Effect • Selection: New Paradigm of Choice • How to Pay: No-Click Buying in the Blockchain • Delivery: The Last-Mile Dilemma • Customer Care: Customer Service Becomes Customer Intimacy • New Business Models • Work and Study in Onlife Retail • The Rise of the Network Society • Thanks • Notes • Index

Readership: Students, researchers and professionals interested in e-commerce, online marketing, online shopping & retail.



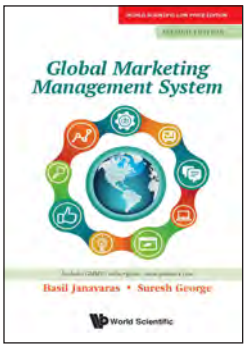
Walking My Destiny
Bhutanese Woman's Story
By Phub Zam
ISBN 9798886131574 • PB • 300pp
Original Price US$34
Indian Edition at Rs 1699 • Year 2025

Walking My Destiny: A Bhutanese Woman's Story is the inspiring autobiography of Phub Zam, Bhutan's trailblazing female entrepreneur who transformed challenges into lasting success. This extraordinary story offers a unique perspective on Bhutan's blend of tradition and modernity, showing how determination turns obstacles into triumph.

Contents

- Introduction: Walking My Destiny
- Foundation Stones
- Boarding School in India
- Marriage and Family
- Prayer and Knowledge
- The First Leap
- Real Estate Investment: Simple yet Powerful
- The Power of Thought: Unlocking Potential
- Apple Orchards and a King's Vision
- The Dawn of Bhutan's Construction Industry
- Harbingers of Good Fortune
- Manifestation of Dreams
- Unrest, Turmoil and Violence
- Love for My Country
- Sowing the Seeds of Investment: The Fourth King's Economic Legacy
- A Monarch's Gift to the People: Bhutan's Historic Path to Constitutional Democracy
- Doing the Right Thing as Elected CAB President
- My Experience of Corporate Governance and Honorary Positions...

Readership: This book is targeted at entrepreneurs, business professionals, as well as small business owners and startups looking for inspiration and advice, especially female professionals navigating male-dominated industries. This book is also targeted at undergraduate students, academics, government officials, policymakers, or NGOs involved in the fields of entrepreneurship (in particular, the topic of women in business), business, Asian studies, and cultural studies (in particular relating to Bhutan and its economic development). Additionally, general readers interested in the lives of entrepreneurs & business leaders, biographies and life memoirs, as well as Bhutanese culture will find this book engaging and insightful.



Global Marketing Management System, 2nd Edition
By Basil Janavaras and Suresh George
ISBN 9781944660918 • PB • 340pp
Original Price US$98
Indian Edition at Rs 1450 • Year 2024

This is the second edition of the Global Marketing Management System (GMMS). The GMMS approach (GMMS book + GMMSO4 software) provides a rigorous theoretical base and a comprehensive, systematic and integrative planning process designed to guide students and managers alike through the decision-making process of a company seeking global market opportunities.

The book aims to provide a structure, platform, tools and a systematic step-by-step process designed to support the creation of a strategic and applied oriented methodology to global business planning and strategy formulation. It introduces the GMMS process as a demonstration of a successful application of using web-based tools in teaching international business. The book also facilitates the ability of students to enhance their understanding of decision making in international management and bridge the gap between theory and practice.

Contents
The Global Marketing Management System:
Introduction
Understanding the Firm's Strategic Position
The Search for Global Markets
Creating an Entry Strategy into a Selected Market
The GMMSO4 Software System:
GMMSO4
Case Study

Readership: Students, instructors, researchers and professionals working in the fields of marketing management, global strategy and international business.

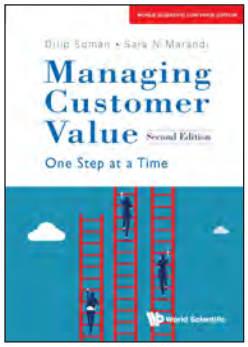
Marketing, 2nd Edition
A Relationship Perspective
By Svend Hollensen and Marc Oliver Opresnik
ISBN 9798886130669 • PB • 520pp
Original Price US$78
Indian Edition at Rs 2195 • Year 2024

Marketing: A Relationship Perspective is back for a second edition and continues to set a benchmark for achievement in introductory marketing courses across Europe. It is a comprehensive, broad-based, and challenging basic marketing text, which describes and analyzes the basic concepts and strategic role of marketing and its practical application in managerial decision-making. It integrates the 'new' relationship approach into the traditional process of developing effective marketing plans. The book's structure fits to the marketing planning process of a company. Consequently, the book looks at the marketing management process from the perspective of both relational and transactional approach, suggesting that a company should, in any case, pursue an integrative and situational marketing management approach. Svend Hollensen's and Marc Opresnik's holistic approach covers both principles & practices, is drawn in equal measure from research and application, and is an ideal text for students, researchers, & practitioners alike. PowerPoint slides are available for all instructors who adopt this book as a course text.

Contents

- Preface to the Second Edition
- Fundamentals of Relationship Marketing
- Situational Analysis in the Marketing Planning Process
- Strategy Formulation in the Marketing Planning Process
- Marketing Mix in the Marketing Planning Process
- Implementation and Controlling in the Marketing Planning Process
- References
- About the Authors
- Subject and Companies Index

Readership: Students and professionals in the field of marketing and customer relationship management.



Managing Customer Value, 2nd Edition
One Step at a Time
By Dilip Soman and Sara N-Marandi
ISBN 9781944660635 • PB • 416pp
Original Price US$78
Indian Edition at Rs 1595 • Year 2023

This book is written for an advanced student of business and the practicing manager. It presents an integrated view of the marketing function. In particular, it focuses on all the activities that a firm engages in to create and manage value - not just the customer-facing activities. It links the traditional views of customer value with the finance, accounting, human resources, organizational behaviour, information technology and operations functions of the organization. It draws on the science of behaviour change and the data sciences to present a contemporary view of the customer value function. The content is meant to be prescriptive — it describes a process for value creation and management, yet analytical; theoretical, yet empirically driven. It urges the reader to think about the customer value function to be organized along activities that the firm would like the customers to engage in, not activities that the firm engages in. It presents a framework that is not only conceptually driven but also has a sound mathematical basis.

Contents
Part 1:
- Managing Customer Value
- Value
- The Value Ladder
- Loyalty

Part 2:
- Customers as Gambles
- Behavior Change
- The Data Revolution
- The Digital and Social Marketplace

Part 3:
- Pricing and Customer Psychology
- Aligning the Organization
- A Practitioner's Guide to Managing Customer Value

Index

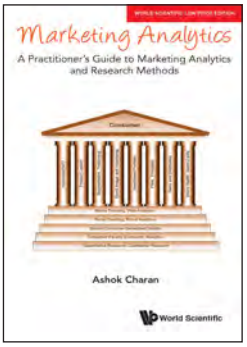
Readership: For graduate students and academics in marketing, business decision-makers and the general public.

Asian Competitors
Marketing for Competitiveness in the Age of Digital Consumers
By Philip Kotler, *et al.*
ISBN 9780000988430 • PB • 344pp
Original Price US$28
Indian Edition at Rs 1195 • Year 2020

This book analyzes competitive companies from 18 Asian countries that have successfully practiced new wave marketing and in so doing, provide invaluable lessons that others may find useful. Comprehensive case studies are used not only to describe how some of Asia's best companies compete, but also to analyze the concepts of new wave marketing their actions are based on. This book is unique in its depth and breadth of cases, from companies in the ASEAN region to North-east Asia, including Mongolia & SAARC. The authors of this book, Professor Philip Kotler, arguably the Father of Modern Marketing, Hermawan Kartajaya from Indonesia, and Hooi Den Huan from Singapore, are all experts in their field and have previously produced other bestsellers. This book, with its focus on real life examples of competitive Asian companies in the age of digitalization, complements the principles and theoretical frameworks of new wave marketing that are detailed in its sister book, *Marketing for Competitiveness*.

Contents
Marketing is Transforming?: Product-Centric Perspective: Connectivity in Product Development • Customer-Centric Perspective: Connecting with Digital Consumers • Human-Centric Perspective: Doing Good by Doing Well in the Connected World • Marketing 4.0: Moving from Traditional to Digital
Marketing is Creating?: Marketing Strategies for Value Exploration • Marketing Tactics for Value Engagement • Marketing Values for Excellent Execution
Glorecalization Mindset: Asia's Local Champions • Asia's Regional Players: Asia Vision, Local Action • Asia's Multinational Companies: Global Value, Regional Strategy, Local Tactic

Readership: Marketing practitioners, business professionals, students and academics studying marketing, and general public interested in marketing.



Marketing Analytics
A Practitioner's Guide to Marketing Analytics and Research Methods
By Ashok Charan
ISBN 9780000988881 • PB • 720pp
Original Price US$78
Indian Edition at Rs 1595 • Year 2020

The digital age has transformed the very nature of marketing. Armed with smartphones, tablets, PCs and smart TVs, consumers are increasingly hanging out on the internet. Cyberspace has changed the way they communicate, and the way they shop and buy. This fluid, de-centralized and multidirectional medium is changing the way brands engage with consumers. At the same time, technology and innovation, coupled with the explosion of business data, has fundamentally altered the manner we collect, process, analyse and disseminate market intelligence. The increased volume, variety and velocity of information enables marketers to respond with much greater speed, to changes in the marketplace. Market intelligence is timelier, less expensive, and more accurate and actionable.

Anchored in this age of transformations, *Marketing Analytics* is a practitioner's guide to marketing management in the 21st century. The text devotes considerable attention to the way market analytic techniques and market research processes are being refined and re-engineered. Written by a marketing veteran, it is intended to guide marketers as they craft market strategies, and execute their day to day tasks.

Contents
Part I: Brand • Part II: Consumer • Part III: Product • Part IV: Advertising • Part V: Price and Promotion • Part VI: Retail • Appendices

Readership: Marketing professionals in consumer marketing firms, research agencies, consultancies and analytics firms: business management students, particularly those who are interested in pursuing careers in consumer marketing.

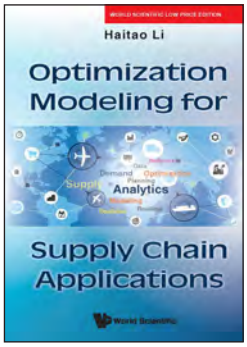
Marketing for Competitiveness
Asia to the World
In the Age of Digital Consumers
By Philip Kotler, *et al.*
ISBN 9789813201965 • PB • 252pp
Original Price US$28
Indian Edition at Rs 899 • Year 2017

Asia is a dynamic market that significantly grows with developments in technology and digitalization. For example, a research by Google and Temasek shows that Southeast Asia is the world's fastest growing internet region. The internet economy in Southeast Asia is expected to grow by 6.5 times from US31 billion in 2015 to US197 billion in 2025.

Asian consumers have become more educated and connected and have embraced newer ways of selecting, buying and using products and services. In this book, the Father of Modern Marketing, Professor Philip Kotler has collaborated with two marketing experts from Asia, Hermawan Kartajaya from Indonesia and Hooi Den Huan from Singapore to publish a book on *Marketing for Competitiveness: Asia to the World — In the Age of Digital Consumers*. This book argues that marketing is no longer just vertical but has encompassed a new, more horizontal paradigm. In addition to many new concepts and frameworks, this book includes a plethora of real-world examples from various countries in Asia, which will help to shed light on how companies, both Asian and global, compete in Asia. Useful lessons can be drawn by all businesses in the world on how to win the mind, heart and spirit of the Asian consumer — digital and non-digital.

Contents
Preface: The Anatomy of Change
Marketing is Transforming?
Competitive Landscape: The Dynamic Arena
Marketing is Moving?
Competitive Position: The Core Essence
Marketing is Creating?
Competitive Marketing: The Whole Set
Postface: Glorecalization Mindset
Asia to the World
Summary

Readership: Marketing enthusiasts, business practitioners, general public interested in marketing; graduates and researchers studying Marketing.

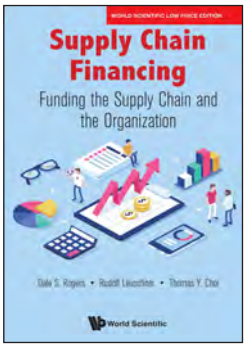


Optimization Modeling for Supply Chain Applications
By Haitao Li
ISBN 9798886130232 • PB • 468pp
Original Price US$148
Indian Edition at Rs 1895 • Year 2024

How to design an efficient and cost-effective logistics network? How to plan procurement, production, and transportation to meet customer demand with minimum operating costs? How to sequence jobs through machines for on-time order completion? And how to dispatch vehicles and schedule their routes to serve customers efficiently? This book provides a systematic and comprehensive coverage of data-driven optimization modeling techniques and their applications in supply chain management. From the methodological perspective, it introduces various model building techniques including mathematical programming (linear and integer programming), network optimization, and constraint programming. From the application perspective, it covers the topics of supply chain network design, production planning, supply chain configuration, machine scheduling, and vehicle routing, among others. It also introduces the state-of-the-art optimization modeling software, the CPLEX OPL Studio, as a powerful and accessible tool for implementing the modeling techniques and solution methods in this book. Sample codes will be available upon purchase of the book. As a textbook, it can be used for an advanced undergraduate or graduate course in supply chain management, operations management, data analytics, economics, & industrial engineering.

Contents
Modeling Methodologies:
Introduction and Overview • Linear Programming • Integer Programming • Network Optimization • Quadratic Unconstrained Binary Optimization (QUBO) Modeling • Constraint Programming
Supply Chain Applications:
Supply Chain Network Design • Production Planning • Resource Planning • Supply Chain Configuration • Machine Scheduling • Resource-Constrained Project Scheduling • Traveling Salesman Problem and Its Variants • Vehicle Routing Problem and Its Variants • Credit Term Optimization

Readership: For advanced undergraduate and graduate students, researchers and practitioners in business, data analytics, computer science, applied math, operations research, supply chain management, operations management and industrial engineering.

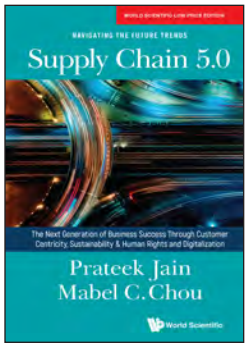


Supply Chain Financing
Funding the Supply Chain & the Organization
By Dale S Rogers, Rudolf Leuschner & Thomas Y Choi
ISBN 9780000991850 • PB • 172pp
Original Price US$78
Indian Edition at Rs 1250 • Year 2024

This book is a comprehensive introduction to supply chain financing as a business model that enables companies to reduce costs, improve their working capital and manage risks more tightly. Supply chain financing is using the supply chain to fund the organization and using the organization to fund the supply chain. Supply chain financing is of growing importance, the book explains what supply chain funding is and its different components as well as its impact and potential not only on companies using it, but more globally. The content moves from the basics of supply chain management to how to structure a global supply chain finance program in today's marketplace, the emergence of fintech providers, and alternative methods of payment, while also offering a view of the future that incorporates new platforms and analytical tools to optimize efficiencies in an organization and increase working capital flows. *Supply Chain Financing* is based on the authors' research and teaching at two leading US business schools. This book is useful for supply chain or finance professionals, decision makers in corporate disciplines, as well as students and professors in business fields.

Contents
Introduction • Financial Components of the Supply Chain • Financial Tools • Funding Growth Through Supply Chain Improvements • Methods of Payment • Supply Chain Financing Programs • Types of Firms Providing SCF Services • Macro Issues Affecting Supply Chain Financing • Supply Chain Management Meets Financial Statements • Conclusions

Readership: Supply management or finance professionals, decision makers in corporate disciplines, undergraduate and graduate students in supply management classes.

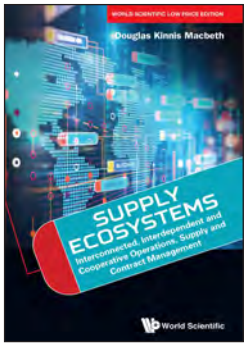


Supply Chain 5.0
The Next Generation of Business Success Through Customer Centricity, Sustainability & Human Rights and Digitalization
By Prateek Jain and Mabel C. Chou
ISBN 9798886130751 • PB • 296pp
Original Price US$58
Indian Edition at Rs 2195 • Year 2024

This book unveils a transformative era in supply chain management, presenting a groundbreaking business model that integrates three pivotal elements: Customer Centricity, Sustainability & Human Rights, and the interplay of Advanced Digitalization. This insightful book guides businesses through the evolving landscape, showcasing how they can synchronize these elements to revolutionize their operations and unlock unparalleled value, ensuring future success.

Contents
- Introduction
- **The Path to Supply Chain Excellence: Embracing the Customer-Centric Paradigm:**
- Embracing a Customer-Centric Approach: How Supply Chains Can Evolve
- **Navigating the Ethical Landscape Beyond Profit:**
- Making Sustainability and Human Rights Hygiene Factors in the Supply Chain
- **Revolutionizing Supply Chains: Advanced Digitalization:**
- Advanced Digitalization — The 3rd Critical Element of Supply Chain 5.0:
- Digitalization of Procurement: Strategies to Optimize Business
- A Major Shift: AI and Blockchain Redefine the Supply Chain
- Metaverse — An Emerging Concept and Technology in Supply Chain Management
- Innovating the Health System: A Look into the Future of Healthcare Supply Chains
- Cold Supply Chain — The Future of Logistics and Supply Chain
- Harnessing the Power of Resilience to Create an Agile Supply Chain
- Digital Defense: Protecting Supply Chains in the Cyber Age

Readership: Supply chain professionals, consultation companies, business leaders, CEOs, supply chain leaders, policy makers, government institutions; business schools, students.



Supply Ecosystems
Interconnected, Interdependent and Cooperative Operations, Supply and Contract Management
By Douglas Kinnis Macbeth
ISBN 9780000991706 • PB • 248pp
Original Price US$89
Indian Edition at Rs 1250 • Year 2024

This book attempts to address the lack of connectedness between topics that have traditionally been dealt with as discrete and self-contained. By reflecting on how these topic areas work together and have the capability to offer businesses a complete supply capability to complement the customer focus of sales and marketing, this book provides a holistic view of how the whole of the supply side of a business can be coordinated and provide support to competitive advantage.

Topics covered include how businesses function in the global business context, the role and importance of design and quality thinking in operations and operations management, the logistics of supply, contracts and informal agreements, as well as current trends and new technological processes. Finally, it concludes with global operations, supply and contract management and competitive advantage.

By providing this bigger picture view it will allow both supply chain students and practitioners as well as their cognate colleagues a chance to see how the crucial connections and interfaces need to be considered and optimized for global success. This book is essential reading for students and managers in the field of operations management and international trade and business.

Contents
Global Business Context • Operations • Supply • Contract • Possible Futures • Supply Ecosystems & Competitive Advantage • Appendix: The RED/BLUE Game

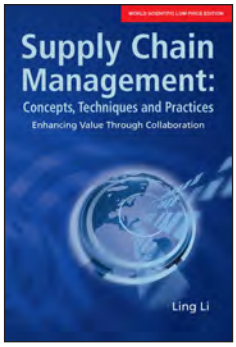
Readership: Students at the undergraduate and graduate level as well as professionals in global operations & supply chain management.

Digital Transformation of the Supply Chain
A Practical Guide for Executives
By Albert Tan & Sameer Shukkla
ISBN 9780000990501 • PB • 152pp
Original Price US$38
Indian Edition at Rs 1050 • Year 2022

This book unravels the complexities of supply chain process transformation by explaining step by step, in simple terms, what are the requirements for success, right from the basics to how to implement this complicated task. The book provides insights into how to lead the transformation project and how to manage the change internally and externally. The authors' hands-on experience in the field via applied research is clearly illustrated in the case studies, which provide the reader with practical examples of the challenges and benefits of implementing a digital supply chain transformation project. This is a must-have book for all supply chain and operations professionals.

Contents
• Relevance of Digital Transformation for Supply Chains • Identifying Processes for the Digital Transformation of the Supply Chain • Initiating the Digital Transformation of the Supply Chain • Establishing Organization and People Readiness • Supply Chain Process Assessment for Digital Transformation • Supply Chain Process Redesign for Digital Transformation • Implementing the Digital Supply Chain Transformation • Supply Chain Transformations in the Healthcare Industry • Managing Process Change with Supply Chain Partners • Success Story in Business Licensing Transformation • Criteria for Success in Digital Supply Chain Transformation • Success Story in Digital Supply Chain Transformation

Readership: Supply Chain Executives, Operation Managers, Operation Executives, Chief Executive Officers, Chief Operating Officers, and Chief Information Officers. Undergraduates, graduates, and academics specialising in supply chain management.



Supply Chain Management: Concepts, Techniques and Practices
Enhancing Value Through Collaboration
By Ling Li
ISBN 9780000989086 • PB • 372pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2020

Integrating theory and practices of supply chain management, this book incorporates more than 15 years of supply chain and operations management research and industry consulting experience to both government and industry firms.

The coverage focuses on how to build a competitive supply chain using viable management strategies, operational models, decision-making techniques, and information technology. It includes a core presentation on supply chain management and new initiatives such as e-commerce, collaborative planning, forecasting, and replenishment (CPFR), data mining, knowledge management, and business intelligence.

Contents
Concepts and Strategic Issues:
Purchasing, Supply Network, Strategic Sourcing:
Demand Transformation in Supply Chain:
Transportation and Logistics:
e-Business Solutions:
Supply Chain Performance and Evaluation:

Readership: Academics and practitioners interested in SCM and the e-business environment: MBA students.

Managing Supply Chain Operations
By Lei Lei, Leonardo DeCandia, Rosa Oppenheim & Yao Zhao
ISBN 9780000988867 • PB • 304pp
Original Price US$98
Indian Edition at Rs 1295 • Year 2020

This book, developed in collaboration with the Rutgers Center for Supply Chain Management and based upon research projects conducted with over 100 participating corporations, combines theory and practice in presenting the concepts necessary for strategic implementation of supply chain management techniques in a global environment. Coauthored by top teaching and research faculty and a senior industry executive, this academic/industry partnership ensures the relevance of the text in terms of both practical application and academic rigor.

This book introduces students to the key drivers of supply chain performance, including demand forecasting, sales and operations planning, inventory control, capacity analysis, transportation models, supply chain integration, and project management and risk analysis. It is enhanced by real-life examples and case studies as well as strategies from best practices and a focus on social and economic impact. The input of senior business executives has been an invaluable asset in presenting a balanced knowledge of both quantitative models and qualitative insights.

This book is suitable for courses at the MBA core level, MS in supply chain management level, upper undergraduate level, and also suitable for executive education.

Contents
Introduction to Supply Chain Management • Forecasting and Demand Management • Sales and Operations Planning • Inventory Management • Project Scheduling and Management • Service Management

Readership: MBA students, undergraduate and graduate students taking supply chain management courses, and readers who are interested in the subject.

Manufacturing Operations Management
By Min-Jung Yoo & Rémy Glardon
ISBN 9780000988874 • PB • 288pp
Original Price US$48
Indian Edition at Rs 1295 • Year 2020

The main purpose of this book is to introduce the essential theories and tools for production (manufacturing operations) management for students in engineering, junior professionals in supply chain and production managers who are starting their career in a manufacturing firm. With a focus on selected key techniques and a practical application of these skills, the book uses a real-world inspired case studies while providing readers with in-depth exploration. Designed as a coaching handbook for instructors or motivated self-learners, it is an ideal resource for project-based learning.

It is suitable for graduates in technology management and engineering, and professionals in the field of manufacturing who want to revise their practical knowledge while enhancing theoretical background.

Contents
Introduction
Basic Concepts and Definitions
Demand Management and Forecasting
Manufacturing Operations Planning
Inventory Management
Just-In-Time and KANBAN Management

Readership: Advanced undergraduate and graduate students in Engineering who are willing to work as a production manager in manufacturing companies: graduate students in Management of Technologies and Entrepreneurship: Professionals in the field of manufacturing who want to revise their practical knowledge while enhancing theoretical background.

Service and Operations Management
By Cengiz Haksever & Barry Render
ISBN 9780000989062 • PB • 692pp
Original Price US$118
Indian Edition at Rs 1695 • Year 2020

The purpose of this book is to provide cutting-edge information on service management such as the role services play in an economy, service strategy, ethical issues in services and service supply chains. It also covers basic topics of operations management including linear and goal programming, project management, inventory management and forecasting. This book takes a multidisciplinary approach to services and operational management challenges: it draws upon the theory and practice in many fields of study such as economics, management science, statistics, psychology, sociology, ethics and technology, to name a few. It contains chapters most textbooks do not include, such as ethics, management of public and non-profit service organizations, productivity and measurement of performance, routing and scheduling of service vehicles.

Contents
Preface
Understanding Services
Building the Service System
Operating the Service System
Operations:
Appendix: Areas Under the Standard Normal Curve

Readership: Students at the graduate and undergraduate level, professionals as well as members of public with a keen interest in service operations management.

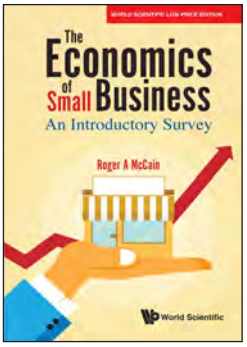
Hands-on Project Management
Practice your Skills with Simulation Based Training
By Avraham Shtub & Moshe Rosenwein
ISBN 9780000988737 • PB • 196pp
Original Price US$58
Indian Edition at Rs 1295 • Year 2020

Teaching project management is not an easy task. Part of the difficulty is the one-of-a-kind nature of projects. This book and the software that comes with it (Project Team Builder) present a unique approach to the teaching and training of project management — an approach based on a software tool that combines an interactive, dynamic case study and a simple yet effective Project Management System. The book focuses on problems that the project manager faces in planning, monitoring and controlling projects.

Together with the software, the book provides the user with the opportunity to experience complex Project Management situations, understand the situation, develop alternative ways to cope with it and select the best alternative based on rigorous analysis.

Contents
Introduction to Project Management
Introduction to the Project Team Builder Simulator
Stakeholder Requirements and Value
Scheduling
Resource Management
Budgeting
Risk Management
Project Integration — Planning, Executing Monitoring, and Controlling the Project
Integration of Simulation-Based Training in Project Management Courses
Appendix: The Next Step — Creating and Managing Multiple Scenarios

Readership: Project managers, project teams, students, professionals and general readers interested in effective project management.



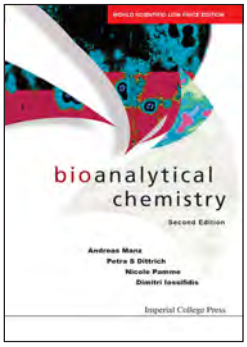
The Economics of Small Business
An Introductory Survey
By Roger A McCain
ISBN 9780000991522 • PB • 284pp
Original Price US$78
Indian Edition at Rs 1295 • Year 2024

This survey reviews research on the economics of small business, introducing key concepts for the understanding of the research, including some basic microeconomics, distribution functions, and concepts of entrepreneurship. Accessible to readers with elementary knowledge of economics and probability, the book is suitable as a text for an undergraduate course in the economics of small business. It also covers the economics of organization, the role of the family in small business, human capital and nonpecuniary motivation, together with the relationship of small business to entrepreneurship and growth. Public policy toward small business is discussed with an emphasis on the United States, together with comparisons and contrasts of many other countries.

Contents
- Introduction
- Small and Medium Businesses: A Diverse Population
- Microeconomics and Small Business
- Entrepreneurship and Small Business
- Small Business, Growth and Employment
- Small Business as Family Business
- The Life Cycle of Small Business, Part 1: "Spawning"
- Small Business and Liquidity Constraint
- The Life Cycle of Small Business, Part 2: Succession
- Franchising
- The Controversy Over "Gibrat's Law"
- Small Business and Happiness
- Small Business, Women and People of Color
- Economic Policy for Small Business

Readership: Students and lecturers of undergraduate courses in the economics of small business, academics in business fields, readers with elementary knowledge of economics and probability.

CHEMISTRY



Bioanalytical Chemistry, 2nd Edition
Foundations for Study and Daily Practice
By Andreas Manz, Petra S. Dittrich, Nicole Pamme and Dimitri Iossifidis
ISBN 9798886130119 • PB • 256pp
Original Price US$48
Indian Edition at Rs 2195 • Year 2024

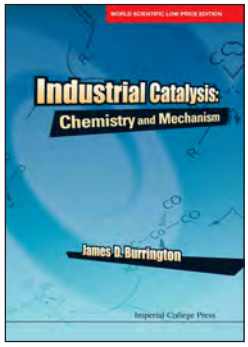
Interdisciplinary knowledge is becoming increasingly important to the modern scientist. This invaluable textbook covers bioanalytical chemistry (mainly the analysis of proteins and DNA) and explains everything for the non-biologist. Electrophoresis, mass spectrometry, biosensors, bioassays, DNA and protein sequencing are not necessarily all included in conventional analytical chemistry textbooks. The book describes the basic principles and the applications of instrumental and molecular methods. It is particularly useful to chemistry and engineering students who already have some basic knowledge about analytical chemistry. This revised second edition contains a new chapter on optical spectroscopy, and updated methods and new references throughout.

Andreas Manz received the 2015 Inventor Award for "Lifetime Achievement" from the European Patent Office.

Petra S Dittrich was presented with the Heinrich-Emanuel-Merck Award 2015 at EuroAnalysis2015 Conference.

Contents
- Biomolecules
- Chromatography
- Electrophoresis
- Mass Spectrometry
- Optical Spectroscopy
- Molecular Recognition in Immunoassays, Biosensors, DNA-Arrays and Pyrosequencing
- Nucleic Acid Analysis
- Protein Analysis

Readership: Undergraduate students in chemistry and engineering.



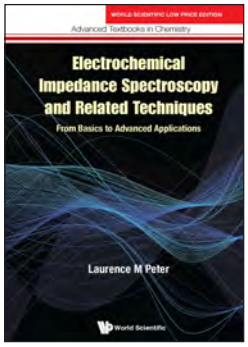
Industrial Catalysis
Chemistry and Mechanism
By James D. Burrington
ISBN 9798886130102 • PB • 296pp
Original Price US$45
Indian Edition at Rs 1695 • Year 2024

Industrial Catalysis: Chemistry and Mechanism is an essential textbook for upper-level undergraduate and graduate students with an interest in the underlying concepts of catalysis, industrial organic chemistry and the mechanism of catalysis. For undergraduates it provides an introduction to the basic catalytic principles and industrial processes. Graduate students will find that the book gives an in-depth understanding of the mechanism of catalytic surface intermediates and the practice of modern catalysis research. For the post graduate and industrial chemist involved in catalysis research, it is a valuable reference text as a compendium of mechanisms by which major industrial catalytic processes operate.

This unique book fills the gap between basic organic chemistry and fundamental chemical principles of catalysis, and is a must read for students and researchers in the field.

Contents
- An Introduction to Industrial Catalysis
- Acid Catalysis
- Oxidation Catalysis
- Polymerization Catalysis
- Reduction/Hydrogenation Catalysis
- Environmental Catalysis
- Catalyst Characterization

Readership: Advanced undergraduate and graduate students in chemistry, chemical and catalysis researchers, and scientists interested in fundamental chemical and mechanistic principles of catalysis.



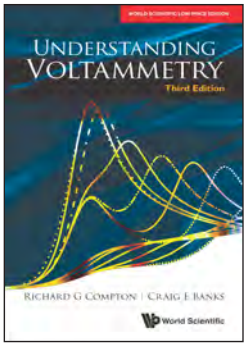
Electrochemical Impedance Spectroscopy and Related Techniques
By Laurence M Peter
ISBN 9798886131529 • PB • 304pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2025

This book begins by introducing the basic concepts of impedance to non-specialist readers, who may have only an elementary knowledge of physics and mathematics. The book explains how potentiostats and frequency-response analyzers work and evaluates a wealth of experimental data obtained either during the annual Bath impedance courses or in the laboratories of the author and his colleagues.

Topics covered include not only conventional electrochemical systems, such as the rotating disc electrode and ultramicroelectrodes, but also unconventional solar cells and the application of frequency-resolved techniques in spectroelectrochemistry. Finally, the last two chapters introduce techniques based on modulation of light intensity rather than voltage or current. The book concludes with worked answers to the problems set out in earlier chapters.

Contents:
- Getting Started
- Frequency-Response Analysis
- Putting the E in EIS: Frequency-Response Analysis of Electrochemical SystemsFeel
- Kramers–Kronig Testing of Impedance Data and Inductive Loops
- The Potentiostat and the Frequency-Response Analyzer: How Do They Work?
- Examples of Finite Diffusion Impedance: The Rotating Disc Electrode and the Ultramicroelectrode
- Photoelectrochemical Impedance Spectroscopy of Dye-Sensitized Solar Cells and Metal Halide Perovskite Cells
- Electrochromic Systems: Potential-Modulated Absorbance Spectroscopy of Polyaniline, and Light-Modulated
- Absorbance of Haematite
- Intensity-Modulated Techniques: Application of IMPS and IMVS to Characterize Unconventional Solar Cells
- Applications of IMPS and PEIS to Study Photoelectrode Kinetics

Readership: Postgraduate students and professionals in the industries of chemistry, physics, material science.



Understanding Voltammetry, 3rd Edition
By Richard G Compton & Craig E Banks
ISBN 9798886131345 • PB • 456pp
Original Price US$68
Indian Edition at Rs 1795 • Year 2025

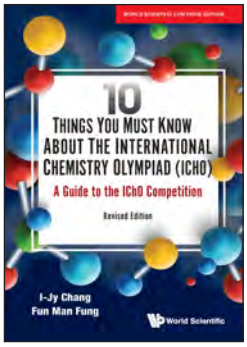
The power of electrochemical measurements in respect of thermodynamics, kinetics and analysis is widely recognised but the subject can be unpredictable to the novice even if they have a strong physical and chemical background, especially if they wish to pursue quantitative measurements. Accordingly, some significant experiments are perhaps wisely never attempted while the literature is sadly replete with flawed attempts at rigorous voltammetry.

This textbook considers how to implement designing, explaining and interpreting experiments centered on various forms of voltammetry (cyclic, microelectrode, hydrodynamic, etc.). The reader is assumed to have knowledge of physical chemistry equivalent to Master's level but no exposure to electrochemistry in general, or voltammetry in particular. While the book is designed to stand alone, references to important research papers are given to provide an introductory entry into the literature.

The third edition contains new material relating to electron transfer theory, experimental requirements, scanning electrochemical microscopy, adsorption, electroanalysis and nanoelectrochemistry.

Contents:
Equilibrium Electrochemistry and the Nernst Equation • Electrode Kinetics • Diffusion • Cyclic Voltammetry at Macroelectrodes • Voltammetry at Microelectrodes • Voltammetry at Heterogeneous Surfaces • Cyclic Voltammetry: Coupled Homogeneous Kinetics and Adsorption • Hydrodynamic Electrodes • Voltammetry for Electroanalysis • Voltammetry in Weakly Supported Media: Migration and Other Effects • Voltammetry at the Nanoscale • Appendix: Simulation of Electrode Processes

Readership: Researchers and professionals in electrochemistry, batteries, fuel cells, solar cells, analytical chemistry.



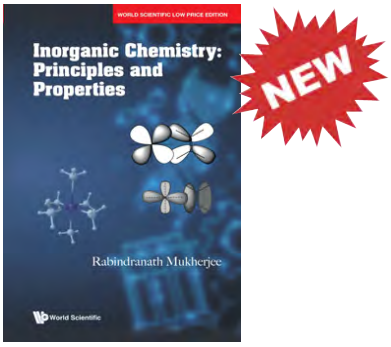
10 Things You Must Know About the International Chemistry Olympiad (IChO)
A Guide to the IChO Competition
By I-Jy Chang & Fun Man Fung
ISBN 9798886130997 • PB • 224pp
Original Price US$58
Indian Edition at Rs 1795 • Year 2024

This is a book dedicated to special groups in the community whom we reach out to promote chemistry interest and learning chemistry. It will be immensely useful to students, parents who are interested in Science Olympiads, Chemistry Olympiad, chemistry instructors at the secondary and collegiate level, and other science instructors at the secondary and collegiate level.

This is a one-of-a-kind book that details the "behind-the-scenes" preparation and trainings that students undergo in various countries. It will enable the effective promotion of chemistry in your respective countries and around the globe.

Contents
- Introduction to the IChO
- How Various Countries Train Their Students
- Strategies to Support IChO Preparations
- Perspectives from Question Setters
- Behind the Scenes
- Testimony from Former IChO Participants (& Mentor)
- Photo Memories of IChO
- Index

Readership: Students, parents who are interested in Science Olympiad, in particular Chemistry Olympiad; Chemistry instructors at the secondary and collegiate level; Other science instructors at the secondary and collegiate level.



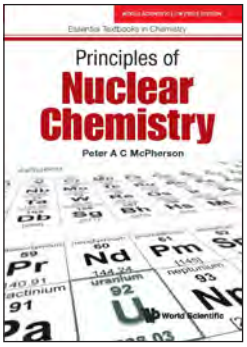
Inorganic Chemistry
Principles and Properties
By Rabindranath Mukherjee
ISBN 9798886131864 • PB • 392pp
Original Price US$118
Indian Edition at Rs 1795 • Year 2026

This book focuses on molecular shapes, molecular symmetry, application of molecular orbital concepts to the compounds of main-group and transition elements of varied symmetry, metal-metal bonding, organometallic compounds such as ferrocene, fundamentals of redox properties, and spectroscopic term symbols. For compounds of d-block elements, it delves into discussions on structures and bonding theories (valence bond, crystal field, and molecular orbital), properties (magnetic, spectral, and redox), and reactivities. Basics and applications of organometallic compounds of d-block elements in catalysis and selected topics of bioinorganic chemistry have also been included. An attempt has been made to integrate selected focused topics, which is expected to help both the students and instructors, reducing the need to consult other specialized books.

For the convenience of the instructors and students, the book highlights in each chapter take home messages. Examples in each subtopic, and at the end of any chapter a list of further reading and exercises to critically think about the concepts are discussed. Almost every chapter lists references to the literature and reviews that has been found to be particularly useful in the advanced Inorganic Chemistry courses. At the end of the book an appendix that gives hints/full answers of the exercises is included.

Contents
• Lewis Structure, Valence Shell Electron Pair Repulsion, and Hybridization • Molecular Symmetry • Molecular Orbital Theory • Redox Reactions • Spectroscopic Terms and Spin-Orbit Coupling • Chemistry of *d*-Block Elements • Reactions of *d*-Block Complexes • Organometallic Chemistry of *d*-Block Elements • Organometallic Catalysis • Bioinorganic Chemistry

Readership: This book covers material that could be included in Inorganic Chemistry course for postgraduate and research-level graduate (PhD) students.



Principles of Nuclear Chemistry
By Peter A C McPherson
ISBN 9780000989000 • PB • 272pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2020

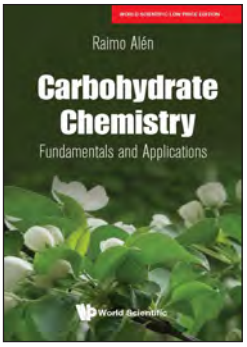
Principles of Nuclear Chemistry is an introductory text in nuclear chemistry and radiochemistry, aimed at undergraduates with little or no knowledge of physics. It covers the key aspects of modern nuclear chemistry and includes worked solutions to end of chapter questions.

The text begins with basic theories in contemporary physics and uses these to introduce some fundamental mathematical techniques. It relates nuclear phenomena to key divisions of chemistry such as atomic structure, spectroscopy, equilibria and kinetics. It also gives an introduction to f-block chemistry and the nuclear power industry.

This book is essential reading for those taking a first course in nuclear chemistry and is a useful companion to other volumes in physical and analytical chemistry. It will also be of use to those new to working in nuclear chemistry or radiochemistry.

Contents
Concepts in Physics
The Structure of the Atom
The Structure of the Nucleus
Radioactive Decay
Kinetics of Radioactive Decay
Nuclear Reactions
Radioactivity at Work
The Nucleus, Spectroscopy, and Spectrometry
Applications of Nuclear Chemistry
Nuclear Medicine
Chemistry of the *f*-Block Elements
Nuclear Power

Readership: Undergraduates with little or no knowledge of physics, those taking a first course in nuclear chemistry, those new to working in nuclear chemistry or radiochemistry.

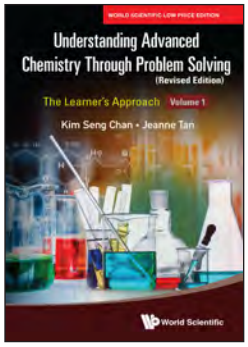


Carbohydrate Chemistry
Fundamentals and Applications
By Raimo Alén
ISBN 9780000988492 • PB • 596pp
Original Price US$78
Indian Edition at Rs 1595 • Year 2020

This book presents a comprehensive approach to the versatile and fascinating field of carbohydrate chemistry. It covers, besides the colorful historical perspective within the utilization of carbohydrates and their derivatives, all modern aspects on their properties, nomenclature, uses, and natural occurrence as such or as residues in a variety of biologically active molecules. Special emphasis is paid to various conversion techniques for producing value-added chemicals, biofuels, and other products from carbohydrate-rich renewable resources. This book can be primarily used as an advanced textbook for a wide range of readers in many disciplines: not only students and teachers but also everyone who works in the laboratory as a researcher or in production and planning or who generally needs relevant knowledge of carbohydrates.

Contents
Introduction • Historical Background of Carbohydrate Utilization and Chemistry • Isomerism • Representation of Open-chain Chiral Molecules as Planar Formulas • Configuration • Cyclic Forms of Monosaccharides • Naming of Monosaccharides • Carbohydrate Biosynthesis • Natural Carbohydrates and Their Derivatives • Carbohydrate Residues-containing Substance Groups • Characteristic Reactions of Carbohydrates • Utilization of Biomass

Readership: Chemists, biochemists, glycobiologists, materials scientists, students in biochemistry and biology.



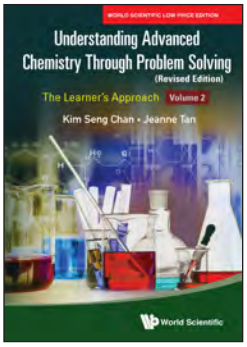
Understanding Advanced Chemistry Through Problem Solving (Volume 1)
The Learner's Approach (Revised Edition)
By Kim Seng Chan & Jeanne Tan
ISBN 9798886130355 • PB • 340pp
Original Price US$38
Indian Edition at Rs 1395 • Year 2024

Written for students taking either the University of Cambridge Advanced Level examinations or the International Baccalaureate examinations, this guidebook covers essential topics and concepts under both stipulated chemistry syllabi. The book is written in such a way as to guide the reader through the understanding and applications of essential chemical concepts using the problem-solving approach. The authors have also retained the popular discourse feature from their previous two books — Understanding Advanced Physical Inorganic Chemistry and Understanding Advanced Organic and Analytical Chemistry — to help the learners better understand and see for themselves, how the concepts should be applied during solving problems. Based on the Socratic Method, questions are im breeed throughout the book to help facilitate the reader's development in forming logical conclusions of the concepts and the way they are being applied to explain the problems. In addition, the authors have also included important summaries and concept maps to help the learners to recall, remember, reinforce, and apply the fundamental chemical concepts in a simple way.

Contents
Physical Chemistry:
Atomic Structure and the Periodic Table • Chemical Bonding • Ideal Gas and Gas Laws • Chemical Thermodynamics • Reaction Kinetics • Chemical Equilibria • Ionic Equilibria • Redox Chemistry and Electrochemical Cells

Inorganic Chemistry:
The Periodic Table: Chemical Periodicity • Chemistry of Groups 2 and 17 • Introduction to Transition Metals and Their Chemistry

Readership: Chemistry students taking O and A levels exam or IB exam or preparing for Singapore Junior Chemistry Olympiad.

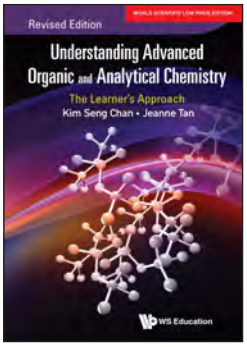


Understanding Advanced Chemistry Through Problem Solving (Volume 2)
The Learner's Approach (Revised Edition)
By Kim Seng Chan & Jeanne Tan
ISBN 9798886130348 • PB • 384pp
Original Price US$38
Indian Edition at Rs 1395 • Year 2024

Written for students taking either the University of Cambridge Advanced Level examinations or the International Baccalaureate examinations, this guidebook covers essential topics and concepts under both stipulated chemistry syllabi. The book is written in such a way as to guide the reader through the understanding and applications of essential chemical concepts using the problem-solving approach. The authors have also retained the popular discourse feature from their previous two books — Understanding Advanced Physical Inorganic Chemistry and Understanding Advanced Organic and Analytical Chemistry — to help the learners better understand and see for themselves, how the concepts should be applied during solving problems. Based on the Socratic Method, questions are implanted throughout the book to help facilitate the reader's development in forming logical conclusions of the concepts and the way they are being applied to explain the problems. In addition, the authors have also included important summaries and concept maps to help the learners to recall, remember, reinforce, and apply the fundamental chemical concepts in a simple way.

Contents
• Structure and Bonding • Isomerism in Organic Compounds • Organic Reactions and Mechanisms • Alkanes • Alkenes • Arenes • Halogen Derivatives • Alcohols and Phenol • Carbonyl Compounds • Carboxylic Acids and Their Derivatives • Amines • Amino Acids • Polymers • Summary of Important Organic Reactions

Readership: Chemistry students taking O and A levels exam or IB exam or preparing for Singapore Junior Chemistry Olympiad.

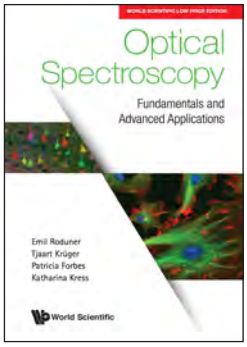


Understanding Advanced Organic and Analytical Chemistry
The Learner's Approach, Revised Edition
By Kim Seng Chan & Jeanne Tan
ISBN 9780000989123 • PB • 568pp
Original Price US$38
Indian Edition at Rs 1495 • Year 2020

This revised edition has been updated. *Understanding Advanced Organic and Analytical Chemistry* is highly relevant to students who are studying chemistry for various examination boards. The authors have also included more Q&A to help students better understand and appreciate the chemical concepts that they are mastering.

Contents
- Structure and Bonding
- Isomerism in Organic Compounds
- Organic Reactions and Mechanisms
- Alkanes
- Alkenes
- Arenes
- Halogen Derivatives
- Alcohols and Phenol
- Carbonyl Compounds
- Carboxylic Acids and Their Derivatives
- Amines
- Amino Acids
- Polymers
- Mass Spectrometry
- Ultra-Violet and Visible Spectroscopy
- Infrared Spectroscopy
- Nuclear Magnetic Resonance Spectroscopy
- Chromatography and Electrophoresis

Readership: Junior college students and teachers in chemistry.



Optical Spectroscopy
Fundamentals and Advanced Applications
By Emil Roduner, Tjaart Krüger, *et al.*
ISBN 9780000988928 • PB • 268pp
Original Price US$98
Indian Edition at Rs 1195 • Year 2020

Developments in optical spectroscopy have taken new directions in recent decades, with the focus shifting from understanding small gas phase molecules towards applications in materials and biological systems. This is due to significant interest in these topics, which has been facilitated by significant technological developments.

Absorption, luminescence and excited state energy transfer properties have become of crucial importance on a large scale in materials related to light-harvesting in organic and inorganic third generation solar cells, for solar water splitting, and in light emitting diodes, TV screens and many other applications. In addition, Förster resonance energy transfer can be used as a ruler for the characterisation of the structure and dynamics of DNA, proteins and other biomolecules via labelling with fluorescing markers.

This advanced textbook covers a range of these applications as well as the basics of absorption, emission and energy transfer of molecular systems in the condensed phase, in addition to the corresponding behaviour of metal nanoparticles and semiconductor quantum dots. Technical experimental requirements, aspects to avoid interfering perturbations and methods of quantitative data analysis make this book accessible and ideal for students and researchers in physical chemistry, biophysics and nanomaterials.

Contents
Introduction • Fundamentals • Aspects of Experimental Setup & Data Analysis • Principles of Optical Spectroscopy Demonstrated for a Set of Rigid Merocyanine Dyes • Absorption & Luminescence of Semiconductor Quantum Dots • Energy Transfer Processes of Excited States • Advanced Applications of Optical Spectroscopy

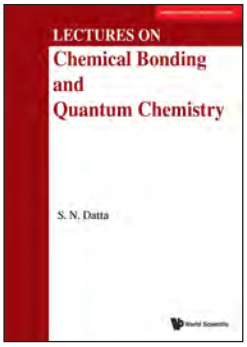
Readership: Students and researchers in chemistry, biology, biophysics, materials science, nanomaterials, analytics, energy conversion and light harvesting subjects.

Concepts for Molecular Machines
By Jubaraj Bikash Baruah
ISBN 9781944660956 • PB • 180pp
Original Price US$68
Indian Edition at Rs 1595 • Year 2024

Actions of living beings at any stage of life are of general interest; molecular machines can be a replica of such activities. Stimuli guided movements and shape changes of molecules are one of the rapidly developing areas on which fundamental principles of molecular machine banks. Thus, the understanding of intriguing concepts of molecular machines is essential. Miniaturization, efficiency, stability and robustness in performing activities are some of the important points associated with molecular machines. Using molecular machines for practical purposes will further strengthen fundamentals of science and technology and also guide future market economy. Recent advent of techniques to handle materials at microscopic level has benefited the topic of molecular machines and is ready to be taken to a higher level as compared to other competing topics of science and technology. Molecular machines is a contemporary hot topic with future scope. The Nobel Prize in the year 2016 was shared by three scientists Prof. Ben Feringa, Prof. J Fraser Stoddart and Prof. Jean-Pierre Sauvage for their contribution to the topic. This book on molecular machines is aimed to cater to the need of graduate students and researchers by providing the fundamental aspects on molecular machines.

Contents
- Introduction to Molecular Machines
- Operational Aspects of Molecular Machines
- Interlocked Systems as Molecular Machines
- Photochemically and Electrochemically Guided Molecular Machines
- Artificial Molecular Machine Based on DNA
- Index

Readership: Chemists, biochemists, glycobiologists, materials scientists, students in biochemistry and biology.

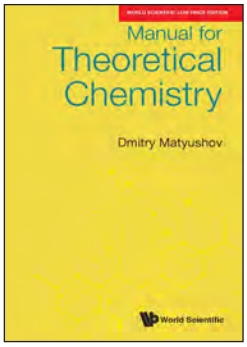


Lectures on Chemical Bonding and Quantum Chemistry
By S N Datta
ISBN 9780000991546 • PB • 460pp
Original Price US$166
Indian Edition at Rs 1595 • Year 2024

In *Lectures on Chemical Bonding and Quantum Chemistry* the reader will find a comprehensive discourse on the basic interpretation of the chemical bond as well as current understanding in terms of a "dancing" molecule that not only travels, rotates and pulsates around an equilibrium molecular structure, but also interacts and collides with other molecules, thereby transferring linear and angular momentum characteristics and adjusting total energies. One will also find a thorough survey of quantum mechanical methodologies for calculation of molecular characteristics in specific states and their changes under spectroscopic transitions, tunneling, electron and proton transfer phenomena, and so on. Guides to more advanced levels of theory are also provided.

Contents
Chemical Bond and Molecular Geometry: Introduction • Fundamental Background • Exactly Solvable Problems • The Variation Method • Application of the Variation Method: Electronic Structure of Atoms • Application of the Linear Variation Method: Molecular Structure • Stationary State Perturbation Theory • Many-Electron Function
Elementary Quantum Chemistry: The Matrix Representations • Basic Operator Formalism • Angular Momentum Revisited • Explicit Treatment of Many-Electron Atoms • Explicit Treatment of Molecules • Quantum Mechanical Tunnel Effects • Time-Dependent Perturbation Theory • Aspects of Many-Body Perturbation Theory
Appendices: Fundamental Physical Constants and Periodic Table • Useful Mathematical Relations • Symmetry of Molecules
References • Author Index • Subject Index

Readership: Physical Chemistry Students, This book represents the text for two core courses of the two-year MSc Chemistry programme in almost all universities in India — "bonding phenomenon" for all chemistry students of Year I and 'quantum chemistry' for all Second-Year students specializing in physical chemistry.

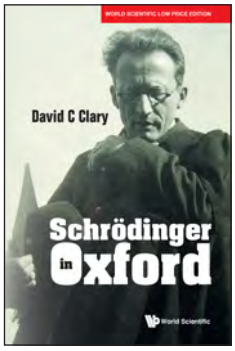


Manual for Theoretical Chemistry
By Dmitry Matyushov
ISBN 9781944660024 • PB • 372pp
Original Price US$68
Indian Edition at Rs 1395 • Year 2022

This study guide aims at explaining theoretical concepts encountered by practitioners applying theory to molecular science. This is a collection of short chapters, a manual, attempting to walk the reader through two types of topics: (i) those that are usually covered by standard texts but are difficult to grasp and (ii) topics not usually covered, but are essential for successful theoretical research. The main focus is on the latter. The philosophy of this book is not to cover a complete theory, but instead to provide a set of simple study cases helping to illustrate main concepts. The focus is on simplicity. Each section is made deliberately short, to enable the reader to easily grasp the contents. Sections are collated in themed chapters, and the advantage is that each section can be studied separately, as an introduction to more in-depth studies. Topics covered are related to elasticity, electrostatics, molecular dynamics and molecular spectroscopy, which form the foundation for many presently active research areas such as molecular biophysics and soft matter physics. The notes provide a uniform approach to all these areas, helping the reader to grasp the basic concepts from a common set of theoretical tools.

Contents
- Vectors and Tensors
- Electrostatics
- Classical Mechanics
- Quantum Mechanics
- Statistical Mechanics
- Liquids
- Diffusion
- Molecular Hydrodynamics
- Elasticity
- Solutions and Electrolytes
- Spectra
- Solvation

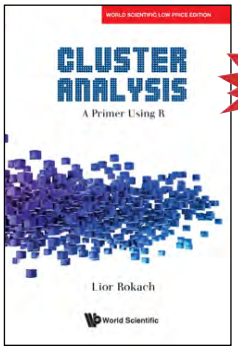
Readership: Advanced undergraduate students, graduate students and researchers working in areas of theoretical chemistry, molecular biophysics & soft matter physics.



Schrödinger in Oxford
By David C Clary
ISBN 9781944660284 • PB • 420pp
Original Price US$38
Indian Edition at Rs 1595 • Year 2022

Erwin Schrödinger was one of the greatest scientists of all time but it is not widely known that he was a Fellow at Magdalen College, Oxford in the 1930s. This book is an authoritative account of Schrödinger's time in Oxford by Sir David Clary, an expert on quantum chemistry and a former President of Magdalen College, who describes Schrödinger's remarkable life and scientific contributions in a language that can be understood by all. Through access to many unpublished manuscripts, the author reveals in unprecedented detail the events leading up to Schrödinger's sudden departure from Berlin in 1933, his arrival in Oxford and award of the Nobel Prize, his dramatic escape from the Nazis in Austria to return to Oxford, and his urgent flight from Belgium to Dublin at the start of the Second World War. It also includes a remarkable letter sent to Schrödinger in Oxford from Adolf Hitler, thanking him for his services to the state as a professor in Berlin. Schrödinger's intense interactions with other great scientists who were also refugees during this period, including Albert Einstein and Max Born, are examined in the context of the chaotic political atmosphere of the time. Fascinating anecdotes of how this flamboyant Austrian scientist interacted with the President and Fellows of a highly traditional Oxford College in the 1930s are a novel feature of the book. A gripping and intimate narrative of one of the most colourful scientists in history, Schrödinger in Oxford explains how his revolutionary breakthrough in quantum mechanics has become such a central feature in 21st century science.

Contents



Cluster Analysis
A Primer Using R
By Lior Rokach
ISBN 9798886131888 • PB • 304pp
Original Price US$108
Indian Edition at Rs 1495 • Year 2026

Cluster analysis is a fundamental data analysis task that aims to group similar data points together, revealing the inherent structure and patterns within complex datasets. This book serves as a comprehensive and accessible guide, taking readers on a captivating journey through the foundational principles of cluster analysis.

At its core, the book delves deeply into various clustering algorithms, covering partitioning methods, hierarchical methods, and advanced techniques such as mixture density-based clustering, graph clustering, and grid-based clustering. Each method is presented with clear, concise explanations, supported by illustrative examples and hands-on implementations in the R programming language — a popular and powerful tool for data analysis and visualization.

Recognizing the importance of cluster validation and evaluation, the book devotes a dedicated chapter to exploring a wide range of internal and external quality criteria, equipping readers with the necessary tools to assess the performance of clustering algorithms. For those eager to stay at the forefront of the field, the book also presents deep learning-based clustering methods, showcasing the remarkable capabilities of neural networks in uncovering hidden structures within complex, high-dimensional data.

Contents

Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of machine learning, statistics, social sciences, data analysis, data science, data mining and bioinformatics.

No-Code AI
Concepts and Applications in Machine Learning, Visualization, and Cloud Platforms
By Min Soo Kang *et al.*
ISBN 9798886131895 • PB • 404pp
Original Price US$88
Indian Edition at Rs 2295 • Year 2026

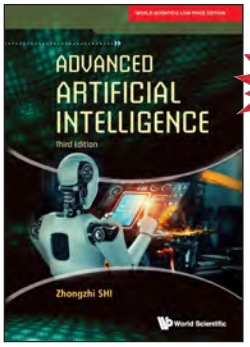
This book is a beginner-friendly guide to artificial intelligence (AI), ideal for those with no technical background. It introduces AI, machine learning, and deep learning basics, focusing on no-code methods for easy understanding.

The book also covers data science, data mining, and big data processing, maintaining a no-code approach throughout. Practical applications are explored using no-code platforms like Microsoft Azure Machine Learning and AWS SageMaker. Readers are guided through step-by-step instructions and real-data examples to apply learning algorithms without coding. Additionally, it includes the integration of business intelligence tools like Power BI and AWS QuickSight into machine learning projects.

This guide bridges the gap between AI theory and practice, making it a valuable resource for beginners in the field.

Contents

Readership: Advanced undergraduate and graduate students or artificial intelligence and machine learning; researchers, and practitioners in the fields of IT, AI; and individuals new to AI.



NEW

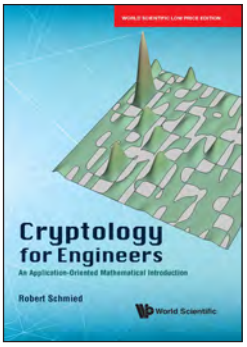
Advanced Artificial Intelligence
3rd Edition
By Zhongzhi Shi
ISBN 9798886131642 • PB • 392pp
Original Price US$148
Indian Edition at Rs 1995 • Year 2026

This third edition comprehensively captures the cutting-edge research achievements of AI. Topics are thoroughly revised and updated, presenting the latest techniques and strategies to address the impending challenges facing computer scientists today.

The useful reference text benefits professionals, academics, researchers, senior and graduate students in the information field and related tertiary specialties.

Contents:
- Author
- Acknowledgments
- Introduction
- Logic Foundation
- Causal Reasoning
- Game Theory
- Statistical Learning
- Deep Learning
- Reinforcement Learning
- Transfer Learning
- Federated Learning
- Artificial General Intelligence
- Crowd Computing
- Artificial Intelligence for Science
- Bibliography
- Index

Readership: Researchers, professionals, academics and graduate students in artificial intelligence, machine learning and pattern recognition



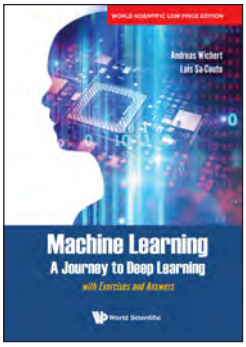
Cryptology for Engineers
An Application-Oriented Mathematical Introduction
By Robert Schmied
ISBN 9780000989222 • PB • 384pp
Original Price US$98
Indian Edition at Rs 1395 • Year 2020

Cryptology is increasingly becoming one of the most essential topics of interest in everyday life. Digital communication happens by transferring data between at least two participants — But do we want to disclose private information while executing a sensitive bank transfer? How about allowing third-party entities to eavesdrop on private calls while performing an important secret business discussion? Do we want to allow ambient communication concerning us to be manipulated while control software is driving our autonomous car along a steep slope? Questions like these make it clear why issues of security are a great concern in our increasingly augmented world.

Cryptology for Engineers is a study of digital security in communications systems. The book covers the cryptographical functionalities of ciphering, hash generation, digital signature generation, key management and random number generation, with a clear sense of the mathematical background on the one hand and engineers' requirements on the other. Numerous examples computable by hand or with a small additional cost in most cases are provided inside.

Contents: Basics on Number Theory & Probability Theory • Security in Communication Systems • Basics on Algebra • Classical Private-Key Ciphering • Theoretical Bounds for Secure Ciphering • Modern Private-Key Ciphering • Components of Public-Key Cryptosystems • Public-Key Ciphering • Message Digests • Digital Signatures • Primality Tests & Pseudo Random Numbers

Readership: This book is suitable for advanced undergraduate and graduate students, researchers and practitioners in the fields of cryptology, mathematics and engineering.



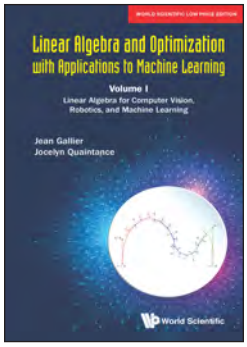
Machine Learning — A Journey to Deep Learning
with Exercises and Answers
By Andreas Wichert and Luis Sa-Couto
ISBN 9798886130706 • PB • 640pp
Original Price US$168
Indian Edition at Rs 2095 • Year 2024

This unique compendium discusses some core ideas for the development and implementation of machine learning from three different perspectives — the statistical perspective, the artificial neural network perspective and the deep learning methodology.

The useful reference text represents a solid foundation in machine learning and should prepare readers to apply and understand machine learning algorithms as well as to invent new machine learning methods. It tells a story outgoing from a perceptron to deep learning highlighted with concrete examples, including exercises and answers for the students.

Contents
- Preface
- Introduction
- Probability and Information
- Linear Algebra and Optimization
- Linear and Nonlinear Regression
- Perceptron
- Multilayer Perceptron
- Learning Theory
- Model Selection
- Clustering
- Radial Basis Networks
- Support Vector Machines
- Deep Learning
- Convolutional Networks
- Recurrent Networks
- Autoencoders
- Epilogue
- Bibliography
- Index

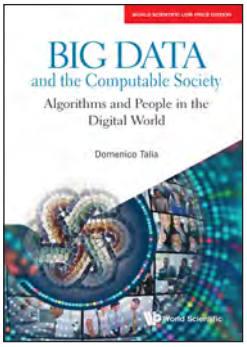
Readership: Professionals, academics, researchers, and graduate students in artificial intelligence/machine learning, neural networks, pattern recognition, and machine perception/ computer vision.



Linear Algebra and Optimization with Applications to Machine Learning
Volume I
Linear Algebra for Computer Vision, Robotics, and Machine Learning
By Jean Gallier & Jocelyn Quaintance
ISBN 9781944660345 • PB • 824pp
Original Price US$98
Indian Edition at Rs 3095 • Year 2023

This book provides the mathematical fundamentals of linear algebra to practicers in computer vision, machine learning, robotics, applied mathematics, and electrical engineering. By only assuming a knowledge of calculus, the authors develop, in a rigorous yet down to earth manner, the mathematical theory behind concepts such as: vectors spaces, bases, linear maps, duality, Hermitian spaces, the spectral theorems, SVD, and the primary decomposition theorem. At all times, pertinent real-world applications are provided. This book includes the mathematical explanations for the tools used which we believe that is adequate for computer scientists, engineers and mathematicians who really want to do serious research and make significant contributions in their respective fields.

Contents
Introduction • Vector Spaces, Bases, Linear Maps • Matrices and Linear Maps • Haar Bases, Haar Wavelets, Hadamard Matrices • Direct Sums, Rank-Nullity Theorem, Affine Maps • Determinants • Gaussian Elimination, *LU*-Factorization, Cholesky Factorization, Reduced Row Echelon Form • Vector Norms and Matrix Norms • Iterative Methods for Solving Linear Systems • The Dual Space and Duality • Euclidean Spaces • *QR*-Decomposition for Arbitrary Matrices • Hermitian Spaces • Eigenvectors and Eigenvalues • Unit Quaternions and Rotations in **SO**(3) • Spectral Theorems in Euclidean and Hermitian Spaces • Computing Eigenvalues and Eigenvectors • Graphs and Graph Laplacians; Basic Facts • Spectral Graph Drawing • Singular Value Decomposition and Polar Form • Applications of SVD and Pseudo-Inverses • Annihilating Polynomials and the Primary Decomposition • Bibliography • Index

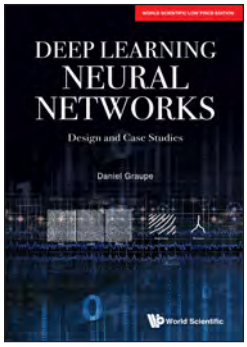


Big Data and the Computable Society
Algorithms and People in the Digital World
By Domenico Talia
ISBN 9780000988454 • PB • 184pp
Original Price US$28
Indian Edition at Rs 1095 • Year 2020

This book analyses contemporary and future issues related to big data, algorithms, data analysis, artificial intelligence and the internet. It introduces and discusses relationships between digital technologies and power, the role of the pervasive algorithms in our life and the risk of technological alienation, the relationships between the use of big data, the privacy of citizens and the exercise of democracy, the techniques of artificial intelligence and their impact on the labor world, the Industry 4.0 at the time of the Internet of Things, social media, open data and public innovation.
Each chapter raises a set of questions and answers to help the reader to know the key issues in the enormous maze that the tools of info-communication have built around us.

Contents
Digital Swarms and Apparent Power • Accountable Men and Algorithms • Consciousness and Technological Alienation • Anticipatory Shipping • The Hypermnesia of the Network • Dis-Education & Inverted Reality • Beware of that Data! • The Inventable Future & Netnography • The Money with Which We Pay the Web • The Privacy and the Toaster • When a Machine Learns Theology • Data Brokers Know Us Without Being Our Friends • Open Data and the Story of a Woman Who Knows Their Meaning • A Strategy of Public Innovation • Spied Democracy or Transparent Society? • Digital Politics, Votes, & Polls • Getting Value from Mining Big Data • Who is the Owner of Facebook Data? • Amazon Bracelet, Amazon Go and Workers • Toward a New Cognitive Paradigm • Surveillance and Digital Politics • Imagine or Govern Our Future? • The Tristanian Syndrome • Toward a Possible Conclusion: Digital Twilights

Readership: Scholars in many fields of computer science, artificial intelligence, Big Data analysis, social media, anthropology and social studies, digital democracy, internet computing.



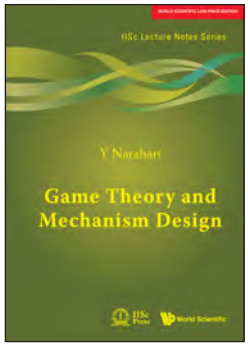
Deep Learning Neural Networks
Design and Case Studies
By Daniel Graupe
ISBN 9780000988546 • PB • 280pp
Original Price US$48
Indian Edition at Rs 1595 • Year 2020

Deep Learning Neural Networks is the fastest growing field in machine learning. It serves as a powerful computational tool for solving prediction, decision, diagnosis, detection and decision problems based on a well-defined computational architecture. It has been successfully applied to a broad field of applications ranging from computer security, speech recognition, image and video recognition to industrial fault detection, medical diagnostics and finance.

This comprehensive textbook is the first in the new emerging field. Numerous case studies are succinctly demonstrated in the text. It is intended for use as a one-semester graduate-level university text and as a textbook for research and development establishments in industry, medicine and financial research.

Contents
Acknowledgements • Preface • Deep Learning Neural Networks: Methodology and Scope • Basic Concepts of Neural Networks • Back Propagation • The Cognitron and Neocognitron • Deep Learning Convolutional Neural Networks • LAMSTAR-1 and LAMSTAR-2 Neural Networks • Other Neural Networks for Deep Learning • Case Studies • Concluding Comments • Problems • Appendices to Case Studies of Chapter 8 • Author Index • Subject Index

Readership: Researchers, academics, professionals, graduate and undergraduate students in machine learning, artificial intelligence, neural networks/networking, software engineering, and in their applications in medicine, security engineering and financial engineering.



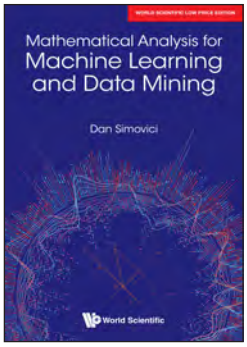
Game Theory and Mechanism Design
By Y Narahari
ISBN 9780000988706 • PB • 532pp
Original Price US$148
Indian Edition at Rs 1995 • Year 2020

This book offers a self-sufficient treatment of a key tool, game theory & mechanism design, to model, analyze, and solve centralized as well as decentralized design problems involving multiple autonomous agents that interact strategically in a rational and intelligent way. The contents of the book provide a sound foundation of game theory and mechanism design theory which clearly represent the "science" behind traditional as well as emerging economic applications for the society. The importance of the discipline of game theory has been recognized through numerous Nobel prizes in economic sciences being awarded to game theorists, including the 2005, 2007, and 2012 prizes. The book distills the marvelous contributions of these and other celebrated game theorists and presents it in a way that can be easily understood even by senior undergraduate students.

A unique feature of the book is its detailed coverage of mechanism design which is the art of designing a game among strategic agents so that a social goal is realized in an equilibrium of the induced game. Another feature is a large number of illustrative examples that are representative of both classical and modern applications of game theory and mechanism design. The book also includes informative biographical sketches of game theory legends, and is specially customized to a general engineering audience. After a thorough reading of this book, readers would be able to apply game theory and mechanism design in a principled and mature way to solve relevant problems in computer science (esp, artificial intelligence/machine learning), computer engineering, operations research, industrial engineering and microeconomics.

Contents
Introduction & Overview • Non-Cooperative Game Theory • Mechanism Design • Cooperative Game Theory • Epilogue • Mathematical Preliminaries

Readership: Senior undergraduate, academics and industrial researchers in computer science, computer engineering, networks and communications, industrial engineering, management science, & microeconomics.

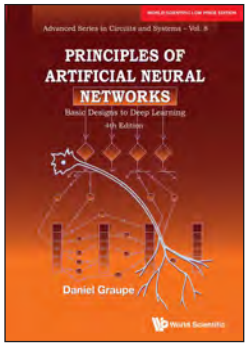


Mathematical Analysis for Machine Learning and Data Mining
By Dan Simovici
ISBN 9780000988898 • PB • 984pp
Original Price US$198
Indian Edition at Rs 1995 • Year 2020

This compendium provides a self-contained introduction to mathematical analysis in the field of machine learning and data mining. The mathematical analysis component of the typical mathematical curriculum for computer science students omits these very important ideas and techniques which are indispensable for approaching specialized area of machine learning centered around optimization such as support vector machines, neural networks, various types of regression, feature selection, and clustering. The book is of special interest to researchers and graduate students who will benefit from these application areas discussed in the book.

Contents
Set-Theoretical and Algebraic Preliminaries:
Preliminaries
Linear Spaces
Algebra of Convex Sets
Topology:
Topology
Metric Space Topologies
Topological Linear Spaces
Measure and Integration:
Measurable Spaces and Measures
Integration
Functional Analysis and Convexity:
Banach Spaces
Differentiability of Functions Defined on Normed Spaces
Hilbert Spaces
Convex Functions
Applications:
Optimization
Iterative Algorithms
Neural Networks
Regression
Support Vector Machines

Readership: Researchers, academics, professionals and graduate students in artificial intelligence, and mathematical modeling.



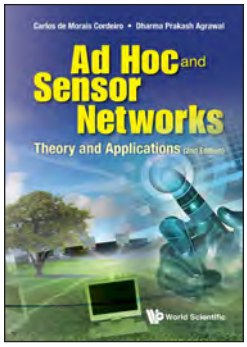
Principles of Artificial Neural Networks, 4th Edition
Basic Designs to Deep Learning
By Daniel Graupe
ISBN 9780000988997 • PB • 440pp
Original Price US$128
Indian Edition at Rs 1795 • Year 2020

The field of Artificial Neural Networks is the fastest growing field in Information Technology and specifically, in Artificial Intelligence and Machine Learning.
This must-have compendium presents the theory and case studies of artificial neural networks. The volume, with 4 new chapters, updates the earlier edition by highlighting recent developments in Deep-Learning Neural Networks, which are the recent leading approaches to neural networks. Uniquely, the book also includes case studies of applications of neural networks — demonstrating how such case studies are designed, executed and how their results are obtained.

The title is written for a one-semester graduate or senior-level undergraduate course on artificial neural networks. It is also intended to be a self-study and a reference text for scientists, engineers and for researchers in medicine, finance and data mining.

Contents
Introduction and Role of Artificial Neural Networks • Fundamentals of Biological Neural Networks • Basic Principles of ANNs & Their Structures • The Perceptron • The Madaline • Back Propagation • Hopfield Networks • Counter Propagation • Adaptive Resonance Theory • The Cognitron and Neocognitron • Statistical Training • Recurrent (Time Cycling) Back Propagation Networks • Deep Learning Neural Networks: Principles and Scope • Deep Learning Convolutional Neural Networks • LAMSTAR Neural Networks • Performance of DLNN — Comparative Case Studies

Readership: Researchers, academics, professionals and senior undergraduate and graduate students in artificial intelligence, machine learning, neural networks and computer engineering.



Ad Hoc and Sensor Networks, 2nd Edition
Theory and Applications
By De Morais Cordeiro Carlos & Dharma Prakash Agrawal
ISBN 9780000988010 • PB • 664pp
Original Price US$72
Indian Edition at Rs 895 • Year 2011

This book provides a comprehensive yet easy coverage of ad hoc and sensor networks and fills the gap of existing literature in this growing field. It emphasizes that there is a major interdependence among various layers of the network protocol stack. Contrary to wired or even one-hop cellular networks, the lack of a fixed infrastructure, the inherent mobility, the wireless channel, and the underlying routing mechanism by ad hoc and sensor networks introduce a number of technological challenges that are difficult to address within the boundaries of a single protocol layer.

All existing textbooks on the subject often focus on a specific aspect of the technology, and fail to provide critical insights on cross-layer interdependencies. To fully understand these intriguing networks, one need to grasp specific solutions individually, and also the many interdependencies and cross-layer interactions.

Contents
Introduction • Routing in Ad Hoc Networks • Broadcasting, Multicasting and Geocasting • Wireless LANs • Wireless PANs • Wireless Mesh Networks • Directional Antenna Systems • Cognitive Radio and Networks • TCP over Ad Hoc Networks • Applications of Sensor Networks • Sensor Networks Design Considerations • Sensor Networks in Controlled Environment and Actuators • Security in Ad Hoc and Sensor Networks • Integrating MANETs, WLANs, and Cellular Networks

Readership: Researchers, developers and institutions keen in the applications of wireless devices, and graduate and senior undergraduate students in networking, computer engineering and electrical engineering.

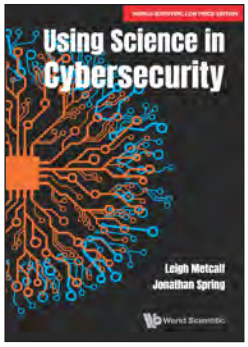
Big Data Management and Analytics
By Brij B Gupta and Mamta
ISBN 9798886130812 • PB • 288pp
Original Price US$88
Indian Edition at Rs 1795 • Year 2024

Big data management and analytics have gained momentum in almost every industry, ranging from finance or healthcare. Big data can reveal key insights if handled and analyzed properly; it has great application potential to improve the working of any industry. This book covers the spectrum aspects of big data; from the preliminary level to specific case studies. It will help readers gain knowledge of the big data landscape.

Highlights of the topics covered include description of the Big Data ecosystem; real-world instances of big data issues; how the Vs of Big Data (volume, velocity, variety, veracity, valence, and value) affect data collection, monitoring, storage, analysis, and reporting; structural process to get value out of Big Data and recognize the differences between a standard database management system and a big data management system.

Contents
- Introduction to Big Data
- Big Data Management and Modeling
- Big Data Processing
- Big Data Analytics and Machine Learning
- Big Data Analytics Through Visualization
- Taming Big Data with Spark 2.0
- Managing Big Data in Cloud Storage
- Big Data in Healthcare
- Big Data in Finance
- Enabling Tools and Technologies for Big Data Analytics
- References
- Index

Readership: Graduate and postgraduate students in Innovation/Technology/Knowledge/Information Management. For researchers, this book provides fundamental and needful insights into the domain that can assist them in exploring this area from the elementary level. Industry CIOs will also find the book useful for conceptual clarity.



Using Science in Cybersecurity
By Leigh Metcalf & Jonathan Spring
ISBN 9798886131277 • PB • 304pp
Original Price US$98
Indian Edition at Rs 1595 • Year 2025

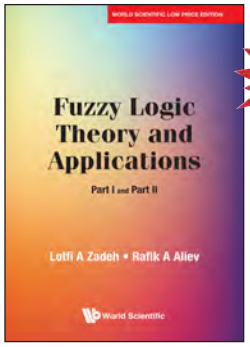
Deploying the scientific method in cybersecurity today is a common-sense approach that is a tough topic in the field of cybersecurity. While most publications in the field emphasize that scientific principles are necessary, there are very few, if any, guides that uncover these principles.

This book will give readers practical tools for cybersecurity. It examines the path of developing cybersecurity foundations while taking into account uncertain data. Extensive examples demonstrate how to deploy cybersecurity to sort our day-to-day problems.

Using Science in Cybersecurity is intended for advanced undergraduate and graduate students, researchers and practitioners in the fields of cybersecurity, information security, and science of cybersecurity.

Contents
- Introduction
- Data in Cybersecurity
- In Search of Truth
- Desirable Study Properties
- Exploratory Data Analysis
- Sampling in Cybersecurity
- Designing Structured Observations
- Data Analysis for Cybersecurity: Goals and Pitfalls
- DNS Study
- Network Traffic Study
- Malware Study
- Human Factors

Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of cybersecurity, information security, and science of cybersecurity.



NEW

Fuzzy Logic Theory and Applications
Part I and Part II
By Lotfi A Zadeh & Rafik A Aliev
ISBN 9798886131581 • PB • 612pp
Original Price US$158
Indian Edition at Rs 1995 • Year 2026

Nowadays, voluminous textbooks and monographs in fuzzy logic are devoted only to separate or some combination of separate facets of fuzzy logic. There is a lack of a single book that presents a comprehensive and self-contained theory of fuzzy logic and its applications.

Written by world renowned authors, Lofti Zadeh, also known as the Father of Fuzzy Logic, and Rafik Aliev, who are pioneers in fuzzy logic and fuzzy sets, this unique compendium includes all the principal facets of fuzzy logic such as logical, fuzzy-set-theoretic, epistemic and relational. Theoretical problems are prominently illustrated and illuminated by numerous carefully worked-out and thought-through examples.

This invaluable volume will be a useful reference guide for academics, practitioners, graduates and undergraduates in fuzzy logic and its applications.

Contents

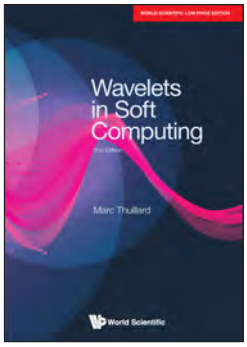
Fuzzy Logic Theory (Lotfi A Zadeh and Rafik A Aliev):

• Fuzzy Sets • Fuzzy Logic • Restriction Concept • Fuzzy Probabilities • Fuzzy Functions • Fuzzy Systems • Z-Number Theory • Generalized Theory of Uncertainty

Applications and Advanced Topics of Fuzzy Logic (Lotfi A Zadeh and Rafik A Aliev):

• Restriction-Based Semantics • Granular Computing: Principles and Algorithms • Complex Fuzzy Sets and Complex Fuzzy Logic. An Overview of Theory and Applications • Introduction to Fuzzy Logic Control • Fuzzy Decision-Making • Selected Interpretability Aspects of Fuzzy Systems for Classification • Fuzzy Reinforcement Learning • Adaptive Neuro-Fuzzy Inference Systems (ANFISs) • Fuzzy Expert Systems • Application of Logistic Regression Analysis to Fuzzy Cognitive Maps • Fuzzy Logic in Medicine

Readership: Researchers, academics, professionals, graduate and undergraduate students in fuzzy logic and its applications.



Wavelets in Soft Computing, 2nd Edition
By Marc Thuillard
ISBN 9798886131048 • PB • 320pp
Original Price US$108
Indian Edition at Rs 1695 • Year 2024

The comprehensive compendium furnishes a quick and efficient entry point to many multiresolution techniques and facilitates the transition from an idea into a real project. It focuses on methods combining several soft computing techniques (fuzzy logic, neural networks, genetic algorithms) in a multiresolution framework.

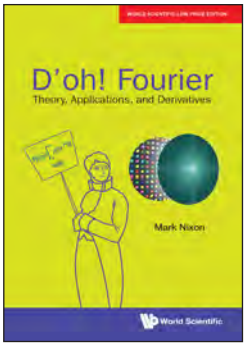
Illustrated with numerous vivid examples, this useful volume gives the reader the necessary theoretical background to decide which methods suit his/her needs.

New materials and applications for multiresolution analysis are added, including notable research topics such as deep learning, graphs, and network analysis.

Contents

- Introduction to the Second Edition
- Introduction to Wavelet Theory
- Preprocessing: The Multiresolution Approach
- Spline-Based Wavelets Approximation and Compression Algorithms
- Automatic Generation of a Fuzzy System with Wavelet-Based Methods and Spline-Based Wavelets
- Nonparametric Wavelet-Based Estimation and Regression Techniques
- Hybrid Neural Networks
- Multiresolution and Deep Neural Networks
- Developing Intelligent Sensors with Fuzzy Logic and Multiresolution Analysis
- Multiresolution and Wavelets in Graphs, Trees, and Networks
- Genetic Algorithms and Multiresolution
- Annexes
- Index

Readership: Researchers, professionals, academics and graduate students in fuzzy logic.



D'oh! Fourier
Theory, Applications, and Derivatives
By Mark Nixon
ISBN 9781944660291 • PB • 304pp
Original Price US$58
Indian Edition at Rs 1695 • Year 2022

D'oh! Fourier introduces the Fourier transform and is aimed at undergraduates in Computer Science, Mathematics, and Applied Sciences, as well as for those wishing to extend their education. Formulated around ten key points, this accessible book is light-hearted and illustrative, with many applications. The basis and deployment of the Fourier transform are covered applying real-world examples throughout inductively rather than the theoretical approach deductively.

The key components of the textbook are continuous signals analysis, discrete signals analysis, image processing, applications of Fourier analysis, together with the origin and nature of the transform itself. *D'oh! Fourier* is reproducible via MATLAB/Octave and is supported by a comprehensive website which provides the code contained within the book.

Contents

Preface • Style • Target Audience • Overview of Structure • In Gratitude • Key points (tldr) • Basic Notions and the Nature of the Fourier Transform • The Continuous Fourier Transform • The Discrete Fourier Transform • The Two-Dimensional Fourier Transform • Variants of the Fourier Transform • Applications of the Fourier Transform • Who and What was Fourier? • Ready Reference Time • References • Index

Readership: Aimed at undergraduates with a mathematical background who cover Fourier as part of their undergraduate curriculum. The target curricula include courses on signal processing, communications, speech analysis and understanding, image processing, and computer vision. The book is also aimed at people who are interested in furthering their knowledge on Fourier, for whom maths might be less practiced.

2D Computer Vision
Principles, Algorithms and Applications
By Yu-Jin Zhang
ISBN 9798886131598 • PB • 556pp
Original Price US$138
Indian Edition at Rs 1895 • Year 2026

This special compendium introduces the basic principles, typical methods and practical techniques of 2D computer vision. The volume comprehensively covers the introductory content of computer vision and the materials are selected based on courses conducted in the past 20 years.

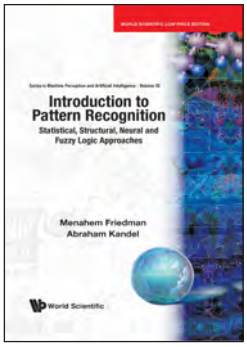
The useful textbook provides numerous examples and self-test questions (including hints and answers) through intuitive explanations to help readers understand abstract concepts.

This unique reference text provides the first computer vision course service for undergraduates of related majors in university and colleges. It also allows teachers to carry out online courses and strengthen teacher-student interaction when teaching.

Contents
Preface
About the Author
Computer Vision Fundamentals
2D Image Acquisition
Spatial Domain Enhancement
Frequency Domain Enhancement
Image Restoration
Color Enhancement
Image Segmentation
Primitive Detection
Object Representation
Object Description
Texture Description
Shape Description
Object classification
Appendices:
- Mathematical Morphology
- Visual Constancy

Answers to Self-Test Questions
Index

Readership: Researchers, professionals, academics, undergraduate and graduate students in pattern recognition, machine perception and electrical & electronic engineering.



Introduction to Pattern Recognition
Statistical, Structural, Neural and Fuzzy Logic Approaches
By Menahem Friedman & Abraham Kandel
ISBN 9780000988812 • PB • 344pp
Original Price US$65
Indian Edition at Rs 1395 • Year 2020

This book is an introduction to pattern recognition, meant for undergraduate and graduate students in computer science and related fields in science and technology. Most of the topics are accompanied by detailed algorithms and real world applications. In addition to statistical and structural approaches, novel topics such as fuzzy pattern recognition and pattern recognition via neural networks are also reviewed. Each topic is followed by several examples solved in detail. The only prerequisites for using this book are a one-semester course in discrete mathematics and a knowledge of the basic preliminaries of calculus, linear algebra and probability theory.

Contents
Decision Functions
Classification by Distance Functions and Clustering
Classification Using Statistical Approach
Feature Selection
Fuzzy Classification and Pattern Recognition
Syntactic Pattern Recognition
Neural Nets and Pattern Classification

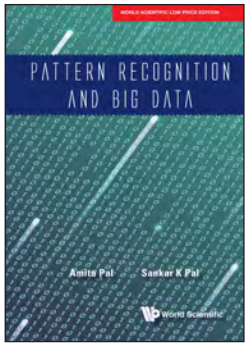
Readership: Undergraduate and graduate students in computer science and related fields in science and technology.

Pattern Recognition
From Classical to Modern Approaches
By Sankar K Pal & Amita Pal
ISBN 9780000988966 • PB • 636pp
Original Price US$144
Indian Edition at Rs 1695 • Year 2020

This volume, containing contributions by experts from all over the world, is a collection of 21 articles which present review and research material describing the evolution and recent developments of various pattern recognition methodologies, ranging from statistical, syntactic/linguistic, fuzzy-set-theoretic, neural, genetic-algorithmic and rough-set-theoretic to hybrid soft computing, with significant real-life applications. In addition, the book describes efficient soft machine learning algorithms for data mining and knowledge discovery. With a balanced mixture of theory, algorithms and applications, as well as up-to-date information and an extensive bibliography, Pattern Recognition: From Classical to Modern Approaches is a very useful resource.

Contents
Pattern Recognition: Evolution of Methodologies and Data Mining • Adaptive Stochastic Algorithms for Pattern Classification • Shape in Images • Decision Trees for Classification: A Review and Some New Results • Fuzzy Sets as a Logic Canvas for Pattern Recognition • Neural Network Based Pattern Recognition • Networks of Spiking Neurons in Data Mining • Genetic Algorithms, Pattern Classification and Neural Networks Design • Rough Sets in Pattern Recognition • Automated Generation of Qualitative Representations of Complex Objects by Hybrid Soft-Computing Methods • Writing Speed and Writing Sequence Invariant On-line Handwriting Recognition • Tongue Diagnosis Based on Biometric Pattern Recognition Technology • and other papers

Readership: Graduate students, researchers and academics in pattern recognition.



Pattern Recognition and Big Data
By Amita Pal & Sankar K Pal
ISBN 9780000988973 • PB • 876pp
Original Price US$198
Indian Edition at Rs 1795 • Year 2020

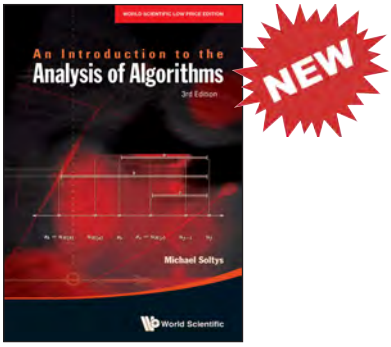
Containing twenty six contributions by experts from all over the world, this book presents both research and review material describing the evolution and recent developments of various pattern recognition methodologies, ranging from statistical, linguistic, fuzzy-set-theoretic, neural, evolutionary computing & rough-set-theoretic to hybrid soft computing, with significant real-life applications.

Pattern Recognition and Big Data provides state-of-the-art classical and modern approaches to pattern recognition and mining, with extensive real life applications. The book describes efficient soft and robust machine learning algorithms and granular computing techniques for data mining and knowledge discovery: and the issues associated with handling Big Data. Application domains considered include bioinformatics, cognitive machines (or machine mind developments), biometrics, computer vision, the e-nose, remote sensing and social network analysis.

Contents
Pattern Recognition • Pattern Classification with Gaussian Processes • Active Multitask Learning using Supervised and Shared Latent Topics • Sparse and Low-Rank Models for Visual Domain Adaptation • Robust Learning of Classifiers in the Presence of Label Noise • Sparse Representation for Time-Series Classification • Rough Sets in Pattern Recognition • The Twin SVM Minimizes the Total Risk • Fuzzy Rough Granular Neural Networks for Pattern Analysis • Keygraphs • Mining Multimodal Data • Recent Advances in Remote Sensing Time Series Image Classification • Sensor Selection for E-Nose • Sampling Theorems for Twitter

For complete table of contents, email us at marketing@feelbooks.in

Readership: Graduate students, researchers, academics and industry practitioners in pattern recognition.



An Introduction to the Analysis of Algorithms
Third Edition
By Michael Soltys
ISBN 9798886131611 • PB • 328pp
Original Price US$98
Indian Edition at Rs 1550 • Year 2026

A successor to the first and second editions, this updated and revised book is a leading companion guide for students and engineers alike, specifically software engineers who design algorithms. While succinct, this edition is mathematically rigorous, covering the foundations for both computer scientists and mathematicians with interest in the algorithmic foundations of Computer Science.

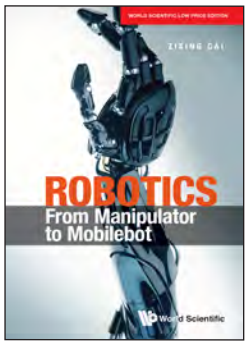
Besides expositions on traditional algorithms such as Greedy, Dynamic Programming and Divide & Conquer, the book explores two classes of algorithms that are often overlooked in introductory textbooks: Randomised and Online algorithms — with emphasis placed on the algorithm itself. The book also covers algorithms in Linear Algebra, and the foundations of Computation.

The coverage of Randomized and Online algorithms is timely: the former have become ubiquitous due to the emergence of cryptography, while the latter are essential in numerous fields as diverse as operating systems and stock market predictions.

While being relatively short to ensure the essentiality of content, a strong focus has been placed on self-containment, introducing the idea of pre/post-conditions and loop invariants to readers of all backgrounds, as well as all the necessary mathematical foundations. The programming exercises in Python will be available on the web (see http://www.msoltys.com/book for the companion web site).

Contents
- Preliminaries
- Greedy Algorithms
- Divide and Conquer
- Dynamic Programming
- Online Algorithms
- Randomized Algorithms
- Algorithms in Linear Algebra
- Computational Foundations
- Mathematical Foundations

Readership: Students of undergraduate courses in algorithms and programming and associated professionals.



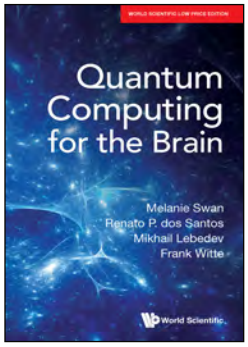
Robotics
From Manipulator to Mobilebot
By Zixing Cai
ISBN 9798886131055 • PB • 656pp
Original Price US$178
Indian Edition at Rs 2095 • Year 2024

This book is a comprehensive collection and practical guide on robotics derived from the author's research in robotics since 1988. The Chinese edition of this book has sold over 300,000 copies, and is one of the best-selling books on robotics in China.

The book covers the core technology of robotics, including the basic theories and techniques of robot manipulator, mobile robots to focus on location navigation, and intelligent control underpinned by artificial intelligence and deep learning. Several case studies from national research projects in China are also included to help readers understand the theoretical foundations of robotics and related application developments. This book is a valuable reference for undergraduate and graduate students of robotics courses.

Contents
Basic Concepts
Robot Manipulator:
Mathematical Fundamentals
Manipulator Kinematics
Manipulator Dynamics
Manipulator Control
Manipulator Planning
Mobile Robot:
Architecture and Dynamics Model of Mobile Robot
Localization and Mapping of Mobile Robot
Mobilebot Navigation
Intelligent Control of Mobile Robots
Applications and Prospect of Robotics:
Application & Market of Robot Technology
Robotics Outlook

Readership: Advanced undergraduate, graduate and post-grad researcher in the discipline/profession of robotics, automatic control, mechatronic engineering, intelligent S&T, computer science and engineering, electronic engineering, management and decision system engineering, and other related fields.



Quantum Computing for the Brain
By Melanie Swan, Renato P. dos Santos, Mikhail Lebedev & Frank Witte
ISBN 9798886131352 • PB • 552pp
Original Price US$158
Indian Edition at Rs 1995 • Year 2025

Quantum Computing for the Brain argues that the brain is the killer application for quantum computing. No other system is as complex, as multidimensional in time and space, as dynamic, as less well-understood, as of peak interest, and as in need of three-dimensional modeling as it functions in real-life, as the brain.

Quantum computing has emerged as a platform suited to contemporary data processing needs, surpassing classical computing and supercomputing. This book shows how quantum computing's increased capacity to model classical data with quantum states and the ability to run more complex permutations of problems can be employed in neuroscience applications such as neural signaling and synaptic integration. State-of-the-art methods are discussed such as quantum machine learning, tensor networks, Born machines, quantum kernel learning, wavelet transforms, Rydberg atom arrays, ion traps, boson sampling, graph-theoretic models, quantum optical machine learning, neuromorphic architectures, spiking neural networks, quantum teleportation, and quantum walks.

Quantum Computing for the Brain is a comprehensive one-stop resource for an improved understanding of the converging research frontiers of foundational physics, information theory, and neuroscience in the context of quantum computing.

Contents
Introduction to Quantum Neuroscience • Foundations • Substrate • Connectivity • System Evolution • Modeling Toolkit

Readership: Thought-leaders, executives, industry strategists, research scientists, graduate students, advanced undergraduate students, policy-makers, research funding agencies, private research institutions.

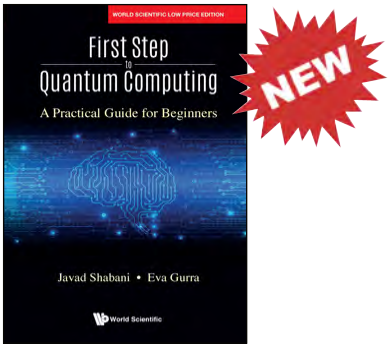
SDN and NFV
A New Dimension to Virtualization
By Brij B Gupta, Amrita Dahiya, Elhadj Benkhelifa
ISBN 9798886131604 • PB • 292pp
Original Price US$98
Indian Edition at Rs 1450 • Year 2026

Software-defined network (SDN) and network function virtualization (NFV) are two technology trends that have revolutionized network management, particularly in highly distributed networks that are used in public, private, or hybrid cloud services. SDN and NFV technologies, when combined, simplify the deployment of network resources, lower capital and operating expenses, and offer greater network flexibility. The increasing usage of NFV is one of the primary factors that make SDN adoption attractive. The integration of these two technologies; SDN and NFV, offer a complementary service, with NFV delivering many of the real services controlled in an SDN. While SDN is focused on the control plane, NFV optimizes the actual network services that manage the data flows. Devices such as routers, firewalls, and VPN terminators are replaced with virtual devices that run on commodity hardware in NFV physical networking. This resembles the 'as-a-service' typical model of cloud services in many aspects. These virtual devices can be accessed on-demand by communication, network, or data center providers.

This book illustrates the fundamentals and evolution of SDN and NFV and highlights how these two technologies can be integrated to solve traditional networking problems. • Elements of Modern Networking

Contents
- Elements of Modern Networking
- Introduction to Networking Concepts
- SDN and NFV: Introduction, History, and Evolution
- SDN Basic Architecture
- SDN Controllers
- The OpenFlow Switch
- SDN Application Plane
- Network Function Virtualisation
- SDN Security and Challenges
- SDN and NFV with Other Technologies

Readership: Graduate- and postgraduate-level students in Robotics and Automated Systems, Networking, Software Engineering and Digital Security, Innovation, Technology, Knowledge and Information Management.



First Step to Quantum Computing
A Practical Guide for Beginners
By Javad Shabani & Eva Gurra
ISBN 9798886131871 • PB • 304pp
Original Price US$58
Indian Edition at Rs 1995 • Year 2026

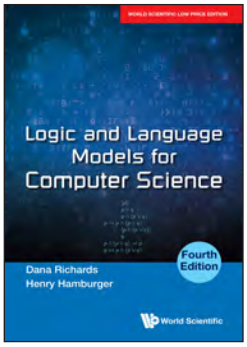
Quantum information is a young and evolving field. This compendium introduces quantum information in a comprehensive self-contained guide without assuming a wealth of knowledge prior to reading.

The volume highlights intuition on counterintuitive topics such as quantum mechanics, basic mathematical tools and calculations involving linear algebra, and applies these concepts to quantum information with guided problems and coding exercises.

This applied guide largely benefits mid-level undergraduates and perhaps motivated high schoolers.

Contents
- Introduction
- Preliminary Math Tools
- Basics of Linear Algebra
- Introduction to Quantum Mechanics
- Single Qubit Representation and Measurement
- Applications with Single Qubits
- Two Qubits and Entanglement
- Experimental Implementation

Readership: Researchers, professionals, academics, undergraduate and graduate students in supercomputing.



Logic and Language Models for Computer Science, 4th Edition
By Dana Richards & Henry Hamburger
ISBN 9781944660833 • PB • 496pp
Original Price US$58
Indian Edition at Rs 1495 • Year 2023

This unique compendium highlights the theory of computation, particularly logic and automata theory. Special emphasis is on computer science applications including loop invariants, program correctness, logic programming and algorithmic proof techniques.

This innovative volume differs from standard textbooks, by building on concepts in a different order, using fewer theorems with simpler proofs. It has added many new examples, problems and answers. It can be used as an undergraduate text at most universities.

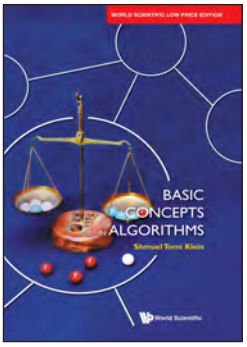
Contents
Preface
About the Author
Mathematical Preliminaries
Logic for Computer Science:
- Propositional Logic
- Proofs by Deduction
- Predicate Logic
- Proofs with Predicates
- Program Verification

Language Models for Computer Science:
- Language and Models
- Generating Regular Languages
- Finite Automata
- Context-Free Grammars
- Pushdown Automata and Parsing
- Turing Machines

Appendices:
- Logic Programming
- The AWK Language

Answers to Selected Problems
Bibliography
Index

Readership: Researchers, professionals, academics, and graduate students in theoretical computer science.



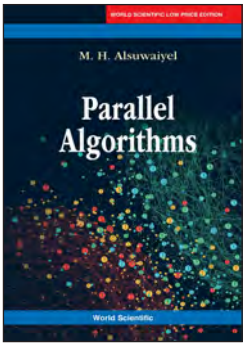
Basic Concepts in Algorithms
By Shmuel Tomi Klein
ISBN 9798886130164 • PB • 364pp
Original Price US$58
Indian Edition at Rs 2195 • Year 2024

This book is the result of several decades of teaching experience in data structures and algorithms. It is self-contained but does assume some prior knowledge of data structures, and a grasp of basic programming and mathematics tools. *Basic Concepts in Algorithms* focuses on more advanced paradigms and methods combining basic programming constructs as building blocks and their usefulness in the derivation of algorithms. Its coverage includes the algorithms' design process and an analysis of their performance. It is primarily intended as a textbook for the teaching of Algorithms for second year undergraduate students in study fields related to computers and programming.

Klein reproduces his oral teaching style in writing, with one topic leading to another, related one. Each chapter comes with its own set of exercises, and solutions to most of them are appended.

Contents
List of Background Concepts • List of Algorithms • Preface
Recursion:
Divide and Conquer • Dynamic Programming
Graph Algorithms:
Minimum Spanning Trees • Shortest Paths
Probabilistic Algorithms:
Primality
Text Algorithms:
Data Compression • Pattern Matching
Numerical Algorithms:
Fast Fourier Transform • Cryptography
Intractability:
NP Completeness • Approximations
Solutions to Selected Exercises • References • Index

Readership: Undergraduate students in chemistry and engineering.



Parallel Algorithms
By M. H. Alsuwaiyel
ISBN 9781944660772 • PB • 400pp
Original Price US$128
Indian Edition at Rs 1595 • Year 2023

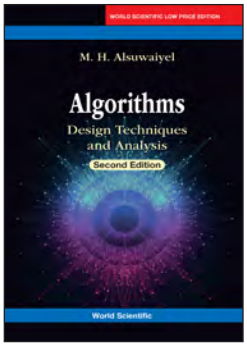
This book is an introduction to the field of parallel algorithms and the underpinning techniques to realize the parallelization. The emphasis is on designing algorithms within the timeless and abstracted context of a high-level programming language. The focus of the presentation is on practical applications of the algorithm design using different models of parallel computation. Each model is illustrated by providing an adequate number of algorithms to solve some problems that quite often arise in many applications in science and engineering.

The book is largely self-contained, presuming no special knowledge of parallel computers or particular mathematics. In addition, the solutions to all exercises are included at the end of each chapter.

The book is intended as a text in the field of the design and analysis of parallel algorithms. It includes adequate material for a course in parallel algorithms at both undergraduate and graduate levels.

Contents
- Introduction
- Shared-memory Computers (PRAM)
- The Hypercube
- The Linear Array and the Mesh
- Fast Fourier Transform
- Tree-based Networks
- The Star Network
- Optical Transpose Interconnection Systems (OTIS)
- Systolic Computations

Readership: Advanced undergraduate and graduate students studying parallel algorithms.



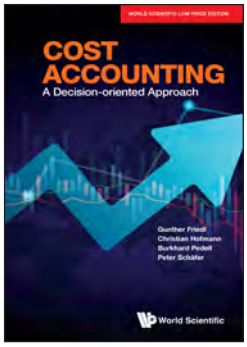
Algorithms, 2nd Edition
Design Techniques and Analysis
By M. H. Alsuwaiyel
ISBN 9781944660215 • PB • 756pp
Original Price US$188
Indian Edition at Rs 2050 • Year 2022

Problem solving is an essential part of every scientific discipline. It has two components: (1) problem identification and formulation, and (2) the solution to the formulated problem. One can solve a problem on its own using ad hoc techniques or by following techniques that have produced efficient solutions to similar problems. This required the understanding of various algorithm design techniques, how and when to use them to formulate solutions, and the context appropriate for each of them.

This book presents a design thinking approach to problem solving in computing — by first using algorithmic analysis to study the specifications of the problem, before mapping the problem on to data structures, then on to the situatable algorithms. Each technique or strategy is covered in its own chapter supported by numerous examples of problems and their algorithms. The new edition includes a comprehensive chapter on parallel algorithms, and many enhancements.

Contents
Preface • About the Author • Acknowledgments • Basic Concepts and Introduction to Algorithms • Techniques Based on Recursion • First-Cut Techniques • Complexity of Problems • Coping with Hardness • Iterative Improvement for Domain-Specific Problems • Techniques in Computational Geometry • Techniques in Parallel Algorithms • Appendices • Bibliography • Index

Readership: Senior undergraduates, graduate students and professionals in software development. Readers in advanced courses or research in science and engineering.



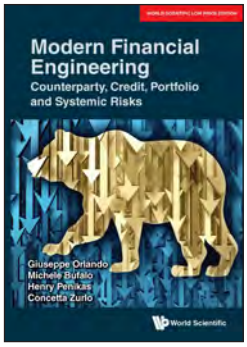
Cost Accounting
A Decision-oriented Approach
By Gunther Friedl, Christian Hofmann, Burkhard Pedell and Peter Schäfer
ISBN 9798886131062 • PB • 632pp
Original Price US$148
Indian Edition at Rs 2895 • Year 2024

Analyzing and managing costs is crucial for business success. Industrial, service, and non-profit companies will not be successful in the long-term if they do not understand their costs.

This textbook introduces the basic concepts and current developments in cost accounting. The book features numerous anecdotal examples from a wide range of industries, case studies, Microsoft Excel examples, and exercises to ensure a sustainable learning success.

Contents
- Cost Accounting as a Part of Corporate Accounting
- Basic Concepts of Cost Accounting
- Product and Service Costing
- Cost-Center Accounting
- Cost-Type Accounting
- Cost Functions and Determining Cost Behavior
- Profit and Loss Calculation
- Cost-Volume Profit Analysis
- Cost and Revenue Information for Operational Decisions
- Standard Costing and Variance Analysis
- Grenzplankostenrechnung (GPK)
- Activity-Based Costing
- Target Costing
- Budgeting
- Transfer Pricing

Readership: Academics and students interested in cost accounting and finance.

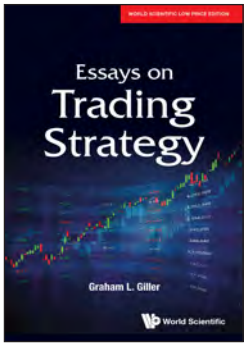


Modern Financial Engineering
Counterparty, Credit, Portfolio & Systemic Risks
By Giuseppe Orlando, Michele Bufalo, Henry Penikas and Concetta Zurlo
ISBN 9781944660659 • PB • 436pp
Original Price US$148
Indian Edition at Rs 1895 • Year 2023

The book offers an overview of credit risk modeling and management. A three-step approach is adopted with the contents, after introducing the essential concepts of both mathematics and finance. The book is aimed at a wide audience in all fields of study: from quants who want to engage in finance to economists who want to learn about coding and modern financial engineering.

Contents
Mathematical and Statistical Foundations:
Distributions Commonly Used in Credit and Counterparty Risk Modeling
Poisson Processes
Estimation Techniques
Finance Background and Regulatory Framework:
Basic Definitions
Banking Regulation Before the Crisis
The Financial Crisis of the XXI-st Century
Credit Risk Regulation After the Crisis
Credit Risk Modeling Essentials:
Probability of Default (PD)
Loss Given Default (LGD)
Other Credit Risk Components and Portfolio Risk
Model Validation and Audit
Counterparty Risk Modeling:
EAD Modeling
EAD-Related Issues
Correlation-Driven Issues
Portfolio Credit Risk Management Applications:
Credit Risk Models
Sector Analysis
Estimating PD and LGD for Modeling
Non-Performing Loans: The Case of Italy
Credit Default Swap (CDS)
Systemic Risk Implications:
Diversifying the Economy for Systemic Risk Reduction: The Case of the Kingdom of Saudi Arabia (KSA)
Systemic Risk Regulation
Appendices

Readership: Academics and practitioners interested in modern financial engineering.

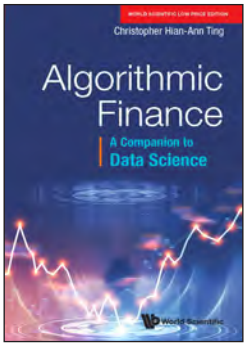


Essays on Trading Strategy
By Graham L Giller
ISBN 9798886130768 • PB • 216pp
Original Price US$78
Indian Edition at Rs 1995 • Year 2024

This book directly focuses on finding optimal trading strategies in the real world and supports that with a well-defined theoretical foundation that allows trading strategy problems to be solved. Critically, it also delivers a menu of actual solutions that can be applied by traders with various risk profiles and objectives in markets that exhibit substantial tail risk. It shows how the Markowitz approach leads to excessive risk taking, and trader underperformance, in the real world. It summarizes the key features of Utility Theory, the deficiencies of the Sharpe Ratio as a statistic, and develops an optimal decision theory with fully developed examples for both "Normal" and leptokurtotic distributions.

Contents
- Preface
- About the Author
- List of Figures
- List of Tables
- Introduction
- Mean–Variance Optimization and the Sharpe Ratio
- Analytical Framework
- Utility Theory-Based Portfolio Choice
- Thinking about How to Solve Trading Problems
- Barrier Trading Algorithms
- *Ex Post* Analysis
- References
- Index

Readership: For researchers, students and professionals like finance professionals, data scientists, economists, investment managers and fund managers.



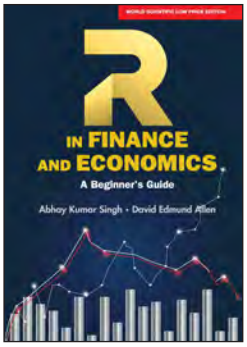
Algorithmic Finance
A Companion to Data Science
By Christopher Hian-Ann Ting
ISBN 9781944660703 • PB • 408pp
Original Price US$148
Indian Edition at Rs 1750 • Year 2023

This book presents the algorithmic aspects of statistics & show how some of the tools are applied to answer questions of interest to finance. This book champions a fundamental principle of science — objective reproducibility of evidence independently by others. From a companion web site, readers can download many easy-to-understand Python programs and real-world data. Independently, readers can draw for themselves the figures in the book. Even so, readers are encouraged to run the statistical tests described as examples to verify their own results against what the book claims. This book covers some topics that are seldom discussed in other textbooks. They include the methods to adjust for dividend payment and stock splits, how to reproduce a stock market index such as Nikkei 225 index, and so on.

This see-for-yourself textbook is essential to anyone who intends to learn the nuts and bots of data science, especially in the application domain of finance. Advanced readers may find the book helpful in its mathematical treatment. Practitioners may find some tips from the book on how an ETF is constructed, as well as some insights on a novel algorithmic framework for pair trading to generate statistical arbitrage.

Contents
- Introduction
- Cross-Sectional Data Analysis
- Comparative Data Analysis
- Prices and Returns
- Log Return and Random Walk
- Stock Market Indexes and ETFs
- Indexes from Derivatives
- Log Return and Random Walk
- Linear Regression
- Event Study
- A Case Study of Modeling: Pair Trading

Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of finance and quantitative finance, data scientists who are learning a new application domain.

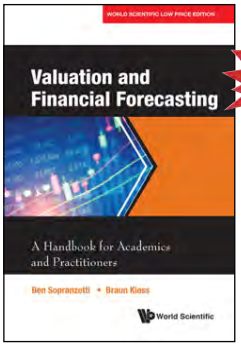


R in Finance and Economics
A Beginner's Guide
By Abhay Kumar Singh
& David Edmund Allen
ISBN 9780000989048 • PB • 264pp
Original Price US$68
Indian Edition at Rs 1595 • Year 2020

This book provides an introduction to the statistical software R and its application with an empirical approach in finance and economics. It is specifically targeted towards undergraduate and graduate students. It provides beginner-level introduction to R using RStudio and reproducible research examples. It will enable students to use R for data cleaning, data visualization and quantitative model building using statistical methods like linear regression, econometrics (GARCH etc), Copulas, etc. Moreover, the book demonstrates latest research methods with applications featuring linear regression, quantile regression, panel regression, econometrics, dependence modelling, etc. using a range of data sets and examples.

Contents
- Introduction
- Data objects in R
- Data Handling in R
- R Programming and Control Flow
- Data Exploration
- Graphics in R
- Regression Analysis-I
- Regression Analysis-II
- Time Series Analysis
- Extreme Value Theory Modelling
- Introduction to Multivariate Analysis Using Copula

Readership: Undergraduate and graduate students who are interested in statistical software R and its applications.



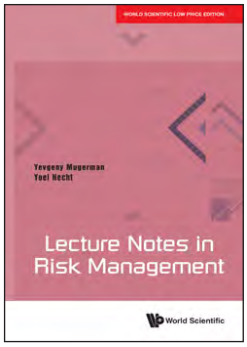
NEW

Valuation and Financial Forecasting
A Handbook for Academics and Practitioners
By Ben Sopranzetti & Braun Kiess
ISBN 9798886131758 • PB • 296pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2026

Valuation and Financial Forecasting is a clearly written and easy to understand handbook intended to help readers of all skill levels accurately forecast financial statements, analyze capital investments, and value business enterprises. The book's approach transcends the traditional textbook discussion of business valuation by providing readers with deep insights into the nexus between financial forecasting and business valuation. The book is written with a high degree of academic rigor; yet, it is still understandable and easy to use for both novices and experts. The goal of this handbook is to help readers, irrespective of their level of expertise, perform more accurate valuations and make better informed investment-related decisions.

Contents
- Introduction
- The Balance Sheet
- The Income Statement
- The Statement of Cash Flows/The Statement of Sources and Uses
- Financial Statement Analysis
- The Time Value of Money
- Valuation Tools for Financial Decision Making
- Risk and Return
- The Income Approach to Valuing a Firm
- The Market Approach/Trading and Precedent Transaction Comparables
- The Asset Valuation Approach
- Forecasting EBITDA and Unlevered Free Cash Flow
- Special Cases in Valuation
- Arriving at a Final Price Estimate — The Football Field and Sensitivity Analysis
- Appendix: Alpha Brewing Company Financials
- Index

Readership: Students, industry professionals, general public, owners of small businesses.



Lecture Notes in Risk Management
By Yevgeny Mugerman & Yoel Hecht
ISBN 9798886131390 • PB • 320pp
Original Price US$98
Indian Edition at Rs 1595 • Year 2025

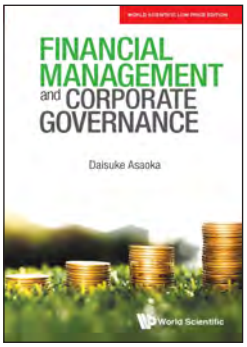
Risk management has become one of the key requirements for insightful decision-making. What are risks sources? How are they being managed? This book describes certainty, uncertainty, financial risks, methods of risk mitigation, and risk management.

The first chapter of this book represents some milestones in risk management and introduces the main aspects of financial risk management. The following chapters discuss various types of financial risk such as market risk, credit risk, operational risk, liquidity risk, interest rate risk, and other financial risks. The last chapter describes enterprise risk management which binds together all the risks.

This book, which is accompanied by PowerPoint presentations, is aimed at lecturers, students, and practitioners with an interest in risk management. The book is the fruit of the authors' long years of work in the field of risk management, serving as a risk management advisor and teaching an MBA-level academic course on the topic for economics and business administration students.

Contents
- Introduction
- Market Risk: Part I and Part II
- Credit Risk
- Liquidity Risk
- Interest Rate Risk
- Operational Risks
- Additional Risks
- Enterprise Risk Management

Readership: Students studying and instructors teaching financial risk management, and practitioners in the field.



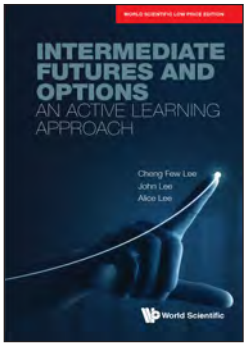
Financial Management and Corporate Governance
By Daisuke Asaoka
ISBN 9798886130027 • PB • 224pp
Original Price US$88
Indian Edition at Rs 1550 • Year 2024

This book provides an integrative perspective on financial management and corporate governance deployed in management decisions. It analyzes wide-ranging issues such as valuation, capital investment, capital structure, mergers and acquisitions, shareholder and stakeholder value management, and corporate governance structure. Throughout the analyses, the book provides a coherent view of firms, laws and markets, and offers practical financial modeling techniques to assist in financial decisions.

This book also incorporates the latest developments in practice, such as direct listings and SPACs in capital markets, contractual arrangements in mergers and acquisitions, setting of corporate purpose, protection of minority investors in related party transactions, balancing of shareholder and stakeholder value from an ESG perspective, and the growing influence of activist funds, index investors and proxy advisors. It looks at these complex issues in firm management through the dual lens of asymmetric information and conflicts of interest that managers deal with, and gives coherency and clarity to the understanding of these key issues in management.

Contents
Introduction
Understanding Value
Making Capital Investment Decisions
Understanding Asymmetric Information in Financial Markets
Optimizing Capital Structure
Merging and Acquiring Businesses
Managing Shareholder and Stakeholder Value
Structuring Corporate Governance
Conclusion

Readership: For students and researchers who are interested to understand more about financial management and corporate governance in management decisions.



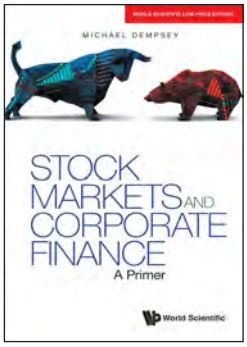
Intermediate Futures and Options
An Active Learning Approach
By Cheng Few Lee, John Lee & Alice Lee
ISBN 9798886130881 • PB • 1000pp
Original Price US$98
Indian Edition at Rs 2095 • Year 2024

Futures and Options are concerned with the valuation of derivatives and their application to hedging and speculating investments. This book contains 22 chapters and is divided into five parts. Part I contains an overview including a general introduction as well as an introduction to futures, options, swaps, and valuation theories. Part II: Forwards and Futures discusses futures valuation, the futures market, hedging strategies, and various types of futures. Part III: Option Theories and Applications includes both the basic and advanced valuation of options and option strategies in addition to index and currency options. Part IV: Advanced Analyses of Options takes a look at higher level strategies used to quantitatively approach the analysis of options. Part V: Special Topics of Options and Futures covers the applications of more obscure and alternative methods in derivatives as well as the derivation of the Black-Scholes Option Pricing Model.

This book applies an active interdisciplinary approach to presenting the material; in other words, three projects involving the use of real-world financial data on derivative, in addition to homework assignments, are made available for students in this book.

Contents
- Overview
- Forwards and Futures
- Option: Theories and Applications
- Advanced Analyses of Options
- Special Topics of Options and Futures
- Index

Readership: Undergraduate and graduate students specializing in corporate finance and general business students taking finance courses.

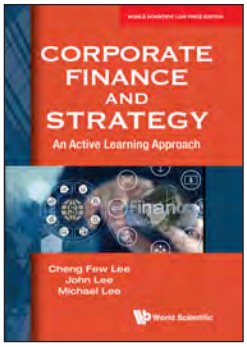


Stock Markets and Corporate Finance
A Primer
By Michael Dempsey
ISBN 9781944660628 • PB • 372pp
Original Price US$68
Indian Edition at Rs 1495 • Year 2023

Stock Markets and Corporate Finance: A Primer examines the nature of the stock market and its implications for corporate management. In the historical context of financial institutions and business finance, students are stimulated to learn that traditional totems of corporate finance can no longer be presented as dogma, but rather as exceedingly frail models of reality. At the core of this text is the philosophy that financial institutions and corporate/business finance are more satisfactorily understood in relation to one another. This revised text from the 2017 *Stock Markets and Corporate Finance* has allowed for a reshaping of the material with the deletion of a number of chapters considered "interesting" but overly academic. This additional space has allowed for an update on the chapter "Financial Institutions and a History of Stock Markets" as well as accounting for the circumstances of a post-COVID-19 era. The chapter "Financial Planning and Working Capital" has been reworked to demonstrate how a firm's financial management team might interrogate its financial accounts.

Contents
Part A:
Introduction: Stock Markets, Investments and Corporate Financial Decision-Making
Financial Institutions and a History of Stock Markets
The Time Value of Money and Financial Planning
Market Debt, Interest Rates & Bond Valuation
The Valuation of Equity Shares
Shareholders' Required Rate of Return (The Cost of Equity Capital)
Statistical Patterns of Stock Market Returns
Part B:
Financial Leverage
Valuation of Cash Flows
Investment Decision-Making
Financial Planning and Working Capital:
The Firm's Financial Statements
Ethical Behavior

Readership: Well-designed to accompany an introduction to all standard tertiary degree "finance" programs at the undergraduate level. The textbook also represents an ideal introduction to finance for MBA courses.

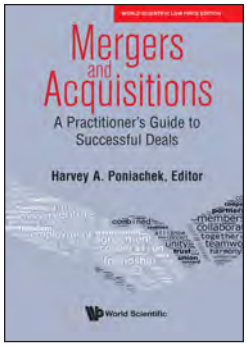


Corporate Finance and Strategy
An Active Learning Approach
By Cheng Few Lee, John Lee & Michael Lee
ISBN 9781944660222 • PB • 1368pp
Original Price US$158
Indian Edition at Rs 2950 • Year 2022

Corporate finance is concerned with how to make capital investment decisions (capital budgeting); how to finance company activities, including new investments; and how to make dividend payment decisions. This book will lecture on important topics for corporate finance, which will cover methods, theory, and policy decisions. The topics which will be addressed in this book include how streams of cash flows are valued, how financial managers evaluate investment opportunities, how financial statements are used to evaluate a company's financial condition and its market value, how a manager chooses between mutually exclusive opportunities, and how they evaluate different types of investment. This book will also discuss the treatment of risk when evaluating a project and the required returns on a project. Alternative sources of funds used to finance new projects, which include internal and external sources of funds, will be theoretically and empirically demonstrated. Lastly, long-term financial planning will be discussed.

Contents
Overview and Background
Valuation Principles and Applications
Capital Budgeting and Risk Return Trade-off
Cost of Capital, Financing Choices, and Dividend Decisions
Long-term Financing
Short-term Financing and Financial Planning
Options, Futures, and Corporate Finance
Other Topics
Appendices

Readership: Undergraduate and graduate students specialising in corporate finance and general business students taking finance courses.



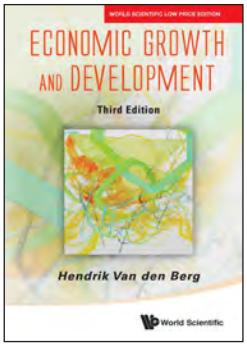
Mergers & Acquisitions
A Practitioner's Guide to Successful Deals
Edited By Harvey A. Poniachek
ISBN 9780000988911 • PB • 592pp
Original Price US$118
Indian Edition at Rs 1595 • Year 2020

This book seeks to provide an effective and comprehensive framework, predominantly embedded in corporate finance, for achieving greater success. Written by academics and practitioners, it integrates business strategies with formal analysis relating to M&A deal making, by utilizing scholarly work with best practices by industry.

The authors provide extensive analytical review and applications of the following critical M&A issues: valuation, leveraged buyouts, payment methods and their implications, tax issues, corporate governance, and the regulatory environment, including antitrust in M&A. The book globalizes the M&A model by extending it to cross-border business, risk and select hedging methods, and addresses postmerger integration.

Contents
Introduction to Mergers and Acquisitions • Doing the Deal: The Framework • The Due Diligence Process in M&A Transactions • The Legal and Regulatory Framework of the M&A Market • Corporate Governance and Control: The Board's Role in M&A • Antitakeover Measures • Valuation Methods and Practices for M&As • Valuation of Privately Held Firms: Methodologies and Applications for M&As • Accounting for M&As • Tax Aspects of M&A • Leveraged Buyouts (LBOs): The Financial Engineering of Transactions and Evolution of LBOs • Restructuring & Divestitures • Cross-Border M&As • M&As in Bankruptcy and Reorganization: The Implications on M&A • Bankruptcy Reorganization & its Implications on M&As in the European Union • Postmerger Integration: Lessons from Experience and Research in Successful Corporations

Readership: Graduate students and lecturers of mergers and acquisitions, MBA students and lecturers, and practitioners.



Economic Growth and Development, 3rd Edition
By Hendrik Van den Berg
ISBN 9798886130140 • PB • 924pp
Original Price US$98
Indian Edition at Rs 2195 • Year 2024

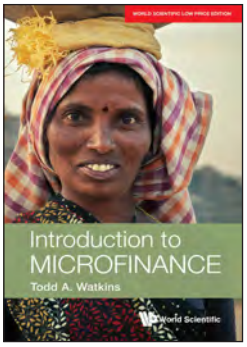
This textbook covers the full range of topics and issues normally included in a course on economic growth and development. Both mainstream economic perspectives as well as the multi-paradigmatic, inter-disciplinary, and dynamic-evolutionary perspectives from heterodox economics are detailed. Economic development is viewed in terms of the long-run well-being of humanity, social stability, environmental sustainability, and just distribution of economic gains, not simply as the growth of GDP.

The textbook's unique feature is its focus on the natural environment. Both the historical effects of economic development on the environment and the environmental constraints on future economic development are thoroughly discussed in two chapters on environmental issues and policies.

The textbook is inter-disciplinary: knowledge from fields such as sociology, psychology, political science, economic history, and ecology is called on to enhance the economic analysis. A thorough historical account of the development of the principal paradigms of economic development is also included, and the important issues of institutional development and cultural change merit their own chapters. Two chapters on technological change holistically focus on production technologies as well as the dynamic performance of entire economic, social, and ecological systems. Also, the important relationship between economic development and globalization is presented in three chapters on international trade, international finance and investment, and immigration from both orthodox & heterodox perspectives.

Contents
- Thinking About Economic Development
- Models of Economic Development
- Key Elements of Economic Development
- International Economic Integration
- Development Issues

Readership: Students and researchers who are interested in economic development, international economics, international trade, international finance and investment.



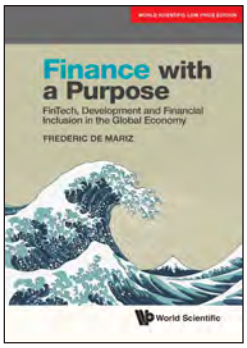
Introduction to Microfinance
By Todd A. Watkins
ISBN 9780000988782 • PB • 472pp
Original Price US$68
Indian Edition at Rs 1495 • Year 2020

Microfinance has grown from the obscure efforts of a few philanthropic institutions into a global industry that reaches 150–200 million clients through the branches of thousands of institutions. Microfinance has matured from exclusively funding loans to providing savings, insurance, healthcare, and education. Yet many people still think of it narrowly as microcredit. Understanding remains thin of what the industry does, how it functions and why.

Introduction to Microfinance provides a non-technical introduction to the broad array of inclusive financial and non-financial services for the world's poor. It explores the financial lives of those families, and the microfinance institutions and rapidly growing industry that serve them. Written in close collaboration with college students for college students, under the auspices of one of the US's leading undergraduate programs in microfinance, it is the first-ever introductory college textbook about microfinance.
What is microfinance? What are its methods and why? Does it work? What are its prospects and challenges? Why is it controversial? This book tackles these questions and more.

Contents
An Introduction to Microfinance
Daily Financial Lives of the Poor
Barriers to Financial Services for the Poor
Informal Finance
Microlending
Beyond Microcredit
Gender Issues in Microfinance
The Evolution of Commercial Microfinance
Measuring the Impact of Microfinance

Readership: Undergraduates and graduates interested in microfinance and those who are keen to know more about microfinance, development, and/or social investing.



Finance with a Purpose
FinTech, Development and Financial Inclusion in the Global Economy
By Frederic de Mariz
ISBN 9781944660796 • PB • 220pp
Original Price US$68
Indian Edition at Rs 1195 • Year 2023

This book tells the story of entrepreneurs, companies, investors, researchers and regulators who are building the financial services of tomorrow and the mechanisms that will allow us as a society to fulfill the promise of inclusion. There are still challenges to overcome, particularly high levels of informality, subpar quality in financial services, and low levels of financial education. Regulators play a crucial role to foster inclusion, proposing sandboxes and stepping up their efforts against risks triggered by technology such as monopolistic behavior, consumer protection and cybercrime. *Finance with a Purpose* combines the theory in the fields of economics, finance & law with the practice of financial institutions, corporates, households and investors. By combining the latest academic research with ample professional experience in emerging markets, this book is essential for policymakers, scholars, and any reader who wants to understand the recent progress in financial inclusion and how it can be used to alleviate inequality and foster economic development.

Contents
Introduction: Financial Disruption with a Purpose
The Promise of Open Banking
Benefits and Limits of Financial Inclusion
Microcredit 15 Years After the Nobel Prize
Electronic Payments as Entry Point for Inclusion
Cryptocurrencies: A Natural Evolution for Payments?
The End of Branches as We Know Them
Using Data While Respecting Customers' Rights
How Can Regulators Foster Inclusion?
Finance Without Banks?
Conclusion: The Way Forward

Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of FinTech, strategic innovation, banking, microfinance, development economics & banking regulation.

Applications and Trends in Fintech I
Governance, AI, & Blockchain Design Thinking
By David Kuo Chuen Lee, Joseph Lim, Kok Fai Phoon & Yu Wang
ISBN 9781944660789 • PB • 288pp
Original Price US$48
Indian Edition at Rs 1495 • Year 2023

This book is the first part of Applications and Trends in Fintech, which serves as a comprehensive guide to the advanced topics in fintech, including the deep learning and natural language processing algorithms, blockchain design thinking, token economics, cybersecurity, cloud computing and quantum computing, compliance and risk management, and global fintech trends. Readers will gain knowledge about the applications of fintech in finance and its latest developments as well as trends.

This fourth volume covers the foundation of fintech, which is ethics and governance, and advanced topics in two of the most important technologies, artificial intelligence and blockchain. Together with the second part in applications and trends (fifth volume), these two books will deepen readers' understanding of the fintech fundamentals covered in previous volumes through various applications and analysis of impacts & trends.

Contents
Ethics and Governance:
Ethical Framework and Principles
Governance and Regulation
Artificial Intelligence, Machine Learning, and Deep Learning in Finance:
Machine Learning
Deep Learning
Natural Language Processing (NLP)
Blockchain Programming and Design Thinking:
Blockchain & Digital Currency Advanced
Token Economics, Blockchain Ecosystem, and Design Thinking

Readership: Professionals, researchers, and advanced undergraduate and graduate students in the field of financial technology, data science, finance, financial innovation, statistics, and technology.

Applications and Trends in Fintech II
Cloud Computing, Compliance, and Global Fintech Trends
By David Kuo Chuen Lee, Joseph Lim, Kok Fai Phoon & Yu Wang
ISBN 9781944660741 • PB • 272pp
Original Price US$48
Indian Edition at Rs 1495 • Year 2023

This book is the second part of Applications and Trends in Fintech, which serves as a comprehensive guide to the advanced topics in fintech, including the deep learning & natural language processing algorithms, blockchain design thinking, token economics, cybersecurity, cloud computing and quantum computing, compliance & risk management, & global fintech trends. Readers will gain knowledge about the applications of fintech in finance & its latest developments as well as trends.

This fifth volume covers global fintech trends and emerging technologies such as cloud computing & quantum computing, as well as the compliance & risk management frameworks for fintech companies. Together with the first part in applications and trends (fourth volume), these two books will deepen readers' understanding of the fintech fundamentals covered in previous volumes through various applications and analysis of impacts and trends.

Contents
Cloud Computing, Cybersecurity, and Quantum Computing:
Cloud Computing
Fundamentals of Cybersecurity
Quantum Computing
Compliance and Risk Management:
Technology Risk Management (TRM)
Decentralized Regulation and Governance
Global Fintech Trends:
Global Fintech Trends
Unicorns and China Tech
Technology Convergence
Computational Law
Impact of AI, Data, and Blockchain
The Future Trends

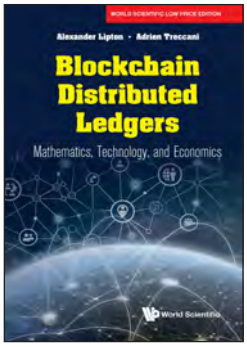
Readership: Professionals, researchers, and advanced undergraduate and graduate students in the field of financial technology, data science, finance, financial innovation, statistics, and technology.

Foundations for Fintech
By David Lee Chuen Kuo *et al.*
ISBN 9781944660130 • PB • 416pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2022

In the digital era, emerging technologies such as artificial intelligence, big data, and blockchain have revolutionized various ways of people's daily lives and brought many opportunities and challenges to the industries. With the increasing demand for talents in the fintech realm, this book serves as a good guide for practitioners who are seeking to understand the basics of fintech and applications of different technologies. This book covers important knowledge in statistics, quantitative methods, and financial innovation to lay the foundation for fintech. It is especially useful for people who are relatively new to this area and would like to become professionals in fintech.

Contents
Preface
About the Editors
Ethics and Governance:
Ethics and Governance
Governance
Statistics:
Introduction and Probability Distribution
Sampling and Estimation
Hypothesis Testing
Regression
Quantitative Methods:
Boolean Algebra and Logic Gates
Number System
Modular Arithmetic
Matrix Operations
Clustering
Financial Innovations:
The Fourth Industrial Revolution
Fintech and Financial Inclusion
Emerging Technologies
Blockchain, Cryptocurrency, and Investment:
Blockchain Technology
Cryptography
Consensus
Cryptocurrencies, Wallet, and Token Economy
Trading, Market, and Investment

Readership: Professionals, researchers, and advanced undergraduate and graduate students in the field of financial technology, data science, finance, financial innovation, statistics, and technology.



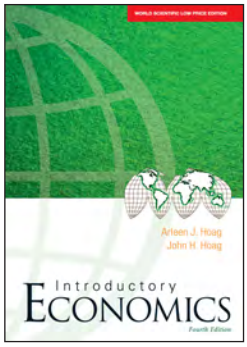
Blockchain and Distributed Ledgers
Mathematics, Technology, and Economics
By Alexander Lipton & Adrien Treccani
ISBN 9781944660062 • PB • 480pp
Original Price US$68
Indian Edition at Rs 1495 • Year 2022

This textbook focuses on distributed ledger technology (DLT) and its potential impact on society at large. It aims to offer a detailed and self-contained introduction to the founding principles behind DLT accessible to a well-educated but not necessarily mathematically oriented audience. DLT allows solving many complicated problems arising in economics, banking, and finance, industry, trade, and other fields. However, to reap the ultimate benefits, one has to overcome some of its inherent limitations and use it judiciously. Not surprisingly, amid increasing applications of DLT, misconceptions are formed over its use. The book thoroughly dispels these misconceptions via an impartial assessment of the arguments rooted in scientific reasoning.

Blockchain and Distributed Ledgers: Mathematics, Technology, and Economics offers a detailed and self-contained introduction to DLT, blockchains, and cryptocurrencies and seeks to equip the reader with an ability to participate in the crypto economy meaningfully.

Contents
Background • The Global Financial System and its Pain Points • A Primer on Cryptocurrencies and Distributed Ledgers • Essential Cryptographic Tools • Bitcoin — A Deep Dive • Ethereum — A Distributed World Computer? • Ripple — A Simple Solution to a Complex Problem? • Central Bank Digital Currencies and Stablecoins • Wallets and Key Management • Cryptocurrencies and Quantitative Finance • Current Research Topics • Present and Future of DLT

Readership: Students and professionals from quantitatively-oriented fields such as mathematics, computer science, finance, economics, banking, and supply chain management.



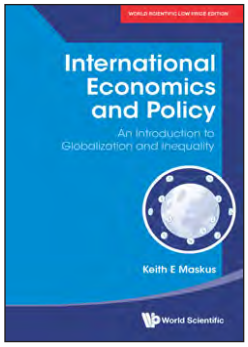
Introductory Economics, 4th Edition
By Arleen J. Hoag and John H. Hoag
ISBN 9798886130720 • PB • 532pp
Original Price US$53
Indian Edition at Rs 2295 • Year 2024

This carefully constructed textbook empowers the reader with an understanding of fundamental economic concepts. There are 31 "one-concept" chapters. Each short chapter highlights one economic principle. The student can study one concept and be reinforced by the learning process before proceeding to another. The writing is lucid and at the student's level. Self-review exercises conclude each chapter.

A study guide is available online without charge. Each chapter in the text has a corresponding chapter in the study guide as well as an introduction to graphing.

Contents
- **The Economic Problem:** The Meaning of Economics • Methods • Production Possibilities • Economic Systems
- **Price Determination:** Demand • Supply • Market Equilibrium • Price Elasticity
- **Behind the Supply Curve:** Diminishing Returns • Cost • Revenue • Profit • Perfectly Competitive Supply • Monopoly • Imperfect Competition • Demand for Inputs
- **Measuring the Economy:** Unemployment and Inflation • Gross Domestic Product • Price Indexes • Business Cycles
- **The Level of Income:** Consumption and Investment • Macro Equilibrium • Government • The Keynesian Cross • Fiscal Policy
- **Money:** Monetary Tools • Money and the Level of Income • Economic Policy
- **Trade:** Trade without Money • Trade with Money

Readership: Undergraduates in micro and macroeconomics.



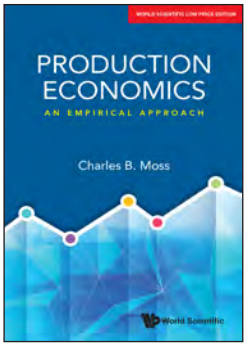
International Economics and Policy
An Introduction to Globalization and Inequality
By Keith E Maskus
ISBN 9798886131222 • PB • 556pp
Original Price US$78
Indian Edition at Rs 1995 • Year 2025

Relying on economic theory where necessary, this book emphasizes translating that theory into practical applications that will help students appreciate the clear importance of understanding how countries, businesses, workers, and governments interact with each other. It offers in-depth analysis, empirical evidence, and practical examples arising from all the forms of international exchange: international trade, or the exchange of goods and services across borders; international finance, or the roles that currencies, exchange rates, prices, and monetary systems play in facilitating global investment and trade; global migration, through which workers move from lower-wage countries to higherwage countries; the international flows of capital and knowledge through multinational enterprises and global supply chains; and the global policy architecture underlying these flows. The book pays particular attention to how globalization and technological change affect economic inequality, a primary policy issue today.

Contents
- Introduction to International Economics
- Basic Theoretical Tools Used in International Trade
- The Ricardian (Classical) Trade Model
- The Factor Proportions (Heckscher–Ohlin) Model of Trade
- Globalization, Technology, and Inequality
- Intra-industry Trade and the Product Cycle Model
- Import Tariffs and Export Subsidies

For complete table of contents, email us at marketing@feelbooks.in

Readership: Primary market: Researchers, graduates, undergraduates, and those teaching Economics at the graduate and post-graduate levels. Secondary market: General readers interested in Economics.

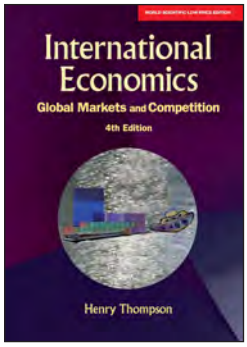


Production Economics
An Empirical Approach
By Charles B. Moss
ISBN 9781944660468 • PB • 576pp
Original Price US$148
Indian Edition at Rs 1895 • Year 2023

Production economics is that branch of microeconomics that examines producer decisions. This book focuses on the empirical estimation of these relationships using primal, dual, and differential specifications. The primal specification models production decisions based on the production function — estimation of the input/output relationship and the derivation of optimization behavior from this technical relationship. The dual approach estimates production decisions using economic information such as input and output prices. The textbook then develops the linkages between these relationships. The differential specification is an alternative approach derived from changes in the first-order conditions from cost minimizing behavior. In each case, the theoretical development is followed by different empirical specifications that can be used to estimate the producer's choice.

Contents
- Preface
- About the Author
- List of Figures
- List of Tables
- Basic Notions of Production Functions
- Estimation of the Primal
- Empirical Examples of the Primal
- Cost and Profit Functions
- Estimating Dual Relationships
- Technical Change and Efficiency
- Differential Models of Production
- Topics and Applications
- Conclusions and Suggestions for Further Research
- Appendix A: Closed-Form Solutions
- Appendix B: Numerical Approximations and Methods
- Glossary
- References
- Index

Readership: For graduate students in agricultural and general economics, as well as for researchers.

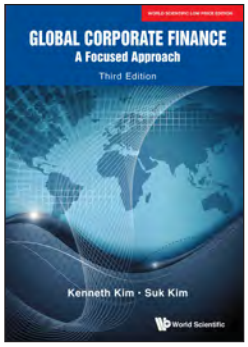


International Economics, 4th Edition
Global Markets and Competition
By Henry Thompson
ISBN 9780000988768 • PB • 376pp
Original Price US$68
Indian Edition at Rs 1695 • Year 2020

This book integrates the microeconomics of international trade with open economy macroeconomics and finance. The theory is comprehensive but presented with intuitive diagrams. The book emphasizes the gains from international competition and the limits of trade policy. Economics began during the Industrial Revolution with a debate over import tariffs. To this day, domestic industries lobby for tariff protection against foreign competition, paying lawmakers for tariffs on imports. Only under special conditions do tariffs lead to economic gains. Domestic importers of materials and industrial products favor free trade, as do export industries since tariffs encourage other countries to retaliate with tariffs of their own.
Trade theory includes market analysis and general equilibrium models of the economy. This text integrates the full range of trade theory with exchange rates, balance of payments, international finance, and open economy growth and macroeconomics.
The presentation focuses on diagrams and avoids equations and algebra. The theory is presented with numerical examples. The text does not assume intermediate economics, instead developing the theory with thorough explanations, questions in each section & boxed examples.

Contents
Trade and Protectionism: Markets and International Trade • Gains from Trade • Protectionism • Terms of Trade
Production and Trade: Constant Cost Production and Trade • Factor Productions and Trade • Industrial Organization & Trade
International Economic Integration: Migration and International Captial • International Integration
International Macroeconomics: Balance of Payments • Foreign Exchange Rates • International Money and Financial Markets • Open Economy Macroeconomics

Readership: Undergraduates in international economics.



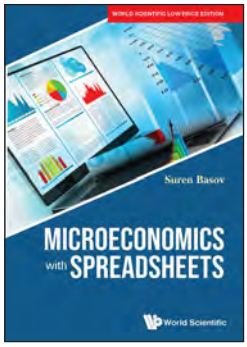
Global Corporate Finance, 3rd Edition
A Focused Approach
By Kenneth Kim & Suk Kim
ISBN 9780000988713 • PB • 428pp
Original Price US$98
Indian Edition at Rs 1795 • Year 2020

Global Corporate Finance, 3rd edition written by a son-father team, introduces students and practitioners to principles essential to the understanding of global financial problems and the policies that global business managers contend with. The objective of this book is to equip current and future business leaders with the tools they need to interpret the issues, to make sound global financial decisions, and to manage the wide variety of risks that modern businesses face in a competitive global environment. In line with its objective, the book stresses practical applications in a concise and straightforward manner, without complex treatment of theoretical concepts. Instructors who want students to possess practical, job-oriented skills in international finance will find this unique textbook ideal for their needs. Suitable for both undergraduate- and graduate-level courses in international finances, this book is clearly the "go-to" book on one of the most important aspects of corporate finance.

Supplementary materials are available to instructors who adopt this textbook for this courses.
These include:
An Instructor's Manual
A Test Bank of 500 multi-choice questions
Two sets of power point lecture slides
Detailed Lecture notes

Contents
The Global Financial Environment
Corporate Foreign Exchange Risk Management
The Global Financing Strategy
The Global Investment Strategy

Readership: Students, researchers and business leaders who want to understand global financial problems, and be equipped with the tools to make sound financial decisions.



Microeconomics with Spreadsheets
By Suren Basov
ISBN 9780000991669 • PB • 204pp
Original Price US$68
Indian Edition at Rs 1195 • Year 2024

Microeconomics studies the choices made by individuals under conditions of scarcity of resources and time and the interaction between different decision makers. Scarcity forces economic actors to choose one opportunity among many. *Microeconomics with Spreadsheets* starts with the mathematical preliminaries and covers consumer theory, producer theory, general equilibrium, game theory, market structure and economics of information.

The reader will use numerical tools to analyse problems that cannot be analysed analytically. There is a natural synergy between rigorous proofs and numerical methods, since before using a numerical method one should also prove that a solution exists and analyse whether it is unique, and therefore be able to interpret properly the output of a program.

Contents
Mathematical Preliminaries:
- Constraint Optimization

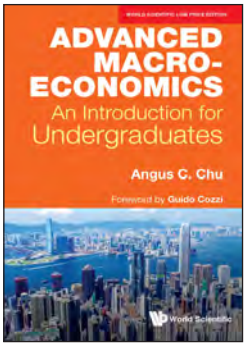
Market Interactions:
- The Consumer Theory
- The Producer Theory
- General Equilibrium
- Choice and Uncertainty

Strategic Interactions:
- Game Theory
- Theory of Imperfect Competition and Industry Structure

The Economics of Information:
- Hidden Information Models
- Hidden Action
- Introduction to Auctions

Mathematical Appendix:
- The Formal Logic
- Basics of Set Theory
- Solutions of Some Equations Systems of Simultaneous Equations
- Basics of Calculus

Readership: Third year undergraduate and honours students along with postgraduate students taking advanced courses and modules on microeconomics.

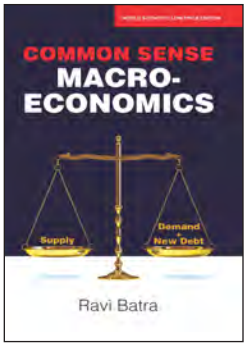


Advanced Macroeconomics
An Introduction For Undergraduates
By Angus C. Chu (*Foreword by* Guido Cozzi)
ISBN 9780000990457 • PB • 172pp
Original Price US$78
Indian Edition at Rs 1195 • Year 2021

Advanced Macroeconomics covers selected topics in advanced macroeconomics at undergraduate level and bridges the gap between intermediate macroeconomics for undergraduates and advanced macroeconomics for postgraduates. By building on materials in intermediate macroeconomics textbooks and covering the mathematics of some classic dynamic general-equilibrium models, this book will give undergraduate students a firm appreciation of modern developments in macroeconomics. This book examines the implications of government policies (such as fiscal policy, monetary policy and innovation policy) and devotes several chapters to economic growth, covering the ideas for which Paul Romer was awarded the Nobel Memorial Prize in Economic Sciences in 2018.

Contents
A Static General-Equilibrium Model • The Neoclassical Growth Model • Dynamics of the Neoclassical Growth Model • The Neoclassical Growth Model with Elastic Labour Supply • Fiscal Policy: Government Spending • Fiscal Policy: Labour Income Tax • Fiscal Policy: Capital Income Tax • Monetary Policy in the New Keynesian Model • The Solow Growth Model • The Ramsey Model • The Ramsey Model with a Perfectly Competitive Market • The Ramsey Model with a Monopolistically Competitive Market • The Romer Model of Endogenous Technological Change • Scale Effect in the Romer Model • R&D Underinvestment and Subsidies • The Schumpeterian Growth Model • Appendix on Dynamic Optimisation

Readership: Advanced undergraduate students studying advanced macroeconomics or economic growth and innovation. Also suitable for master's level courses on macroeconomics and economic growth.



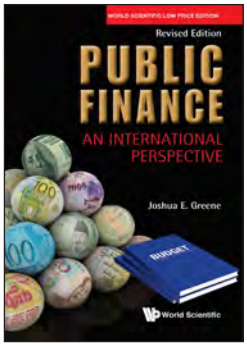
Common Sense Macroeconomics
By Ravi Batra
ISBN 9780000989215 • PB • 376pp
Original Price US$68
Indian Edition at Rs 1195 • Year 2020

In a world of negative interest rates, extreme inequality and trillion-dollar budget deficits, it is safe to say that conventional macroeconomics needs an overhaul. *Common Sense Macroeconomics* is an innovative guide to various concepts of macroeconomic analysis. Presented in a student-friendly and accessible way, this textbook is an ideal introduction to all who seek to foresee economic developments and address some of the key problems of our time.

Ravi Batra, a Professor of Economics at Southern Methodist University and known for his accurate forecasts such as the 2008 crash, argues that the goal of macroeconomics is to raise the living standard of all, not just a privileged few. Contrary to popular belief, relentless monetary expansion to finance budget deficits actually makes the rich richer and the poor poorer, which has been happening all over the world. Ethical policies and efficiency that create general prosperity go together. In order to increase everyone's income, governments should generate competition and outlaw mergers among large and profitable firms.

Contents
Introduction: Microeconomic Foundations and Common Sense • The General Standard of Living • GDP Accounting • The Classical Micro Model • The Classical Macro Model • The Neoclassical Model • The Keynesian Model • The Neo-Keynesian Model • A Classi-Keynesian Model • The Anatomy of Stock Market Bubbles & Crashes • Wage Gap, Global Imbalances and Poverty • Long-Run Growth and Growth Cycles • The Supply of Money • An Open Economy • Economic Reform • Bibliography • Index

Readership: Undergraduate students at the principles and advanced levels; graduate level courses and professional in the field of economics



Public Finance (Revised Edition)
An International Perspective
By Joshua E. Greene
ISBN 9780000990310 • PB • 540pp
Original Price US$118
Indian Edition at Rs 1995 • Year 2021

Drawing from current examples from a variety of countries, *Public Finance: An International Perspective* addresses the main issues in contemporary public finance, including fiscal sustainability, state enterprises, and a variety of subsidies. There are relatively few textbooks on public finance, and many of them focus on the experience and issues facing the United States. This book sets out to address the critical issues from other countries, particularly those from the developing world or emerging market countries, who have received less attention in other texts. Written in a highly accessible manner, this book is a useful reference for students and practitioners alike.

Contents
The Role of Government in a Modern Market Economy
How Fiscal Policy Affects the National Economy
How the National Economy Affects the Fiscal Sector
Fiscal Accounts, Analysis, and Forecasting
Fiscal (Public Debt) Sustainability
Revenue Policy
Expenditure Policy and Reform
State Enterprises
Fiscal Aspects of Responding to Financial Crisis and Bank Restructuring
Fiscal Federalism and Decentralization
Fiscal Policy for Promoting Growth and Alleviating Poverty and Inequality
Fiscal Policy and Aging: Public Pension Programs
Fiscal Policy and Health Care
Fiscal Rules
Fiscal Reforms

Readership: Students, Professionals, Civil servants, Policy Analysts who are interested in knowing about Public Finance.

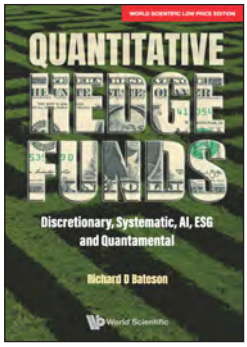
Stochastic Control Approach to Futures Trading
By Tim Leung & Yang Zhou
ISBN 9798886131765 • PB • 176pp
Original Price US$78
Indian Edition at Rs 1195 • Year 2026

Futures play an integral role in the financial markets. Tens of millions of contracts are traded on futures exchanges around the globe every day. In recent years, futures have been incorporated into a wide array of financial securities and have become the driving force behind their price dynamics. Managed futures portfolios and commodity trading advisors (CTAs), with hundreds of billions under management, are major parts of the hedge fund industry.

This book presents a unique stochastic control approach to dynamic futures trading. Multiple stochastic models are designed to capture the salient features of various market regimes and dynamics. They are useful for pricing futures contracts and building futures portfolios. The authors analyze the mathematical problems associated with futures trading problems in different market environments. A series of numerical examples are presented to illustrate the optimal trading strategies. In addition, analytic formulas and numerical methods are provided for fast implementation. The book is useful for practitioners interested in futures trading as well as graduate students and researchers in Quantitative Finance.

Contents
Introduction • Futures Pricing Under a Multifactor Gaussian Framework • Dynamic Futures Portfolios Under a Multifactor Gaussian Framework • Futures Pricing in a Regime-Switching Market • Dynamic Futures Portfolio in a Regime-Switching Market • Dynamic Futures Portfolios with Stochastic Basis

Readership: Primary Market: Undergraduate, master-level, and PhD students in quantitative finance, mathematics, applied mathematics, operations research, and stochastics; Quantitative finance professionals, including traders and quantitative researchers; Faculty and researchers in the field of quantitative finance and stochastic control. Secondary Market: Graduate students in related fields, such as optimization and systems engineering; Commodity markets and futures markets professionals (traders, fund managers, etc).



Quantitative Hedge Funds
Discretionary, Systematic, AI, ESG and Quantamental
By Richard D Bateson
ISBN 9798886131093 • PB • 288pp
Original Price US$68
Indian Edition at Rs 1450 • Year 2024

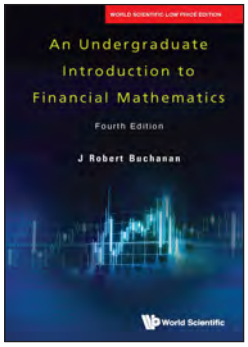
If you're intrigued by the inner workings of hedge funds, investment techniques and technologies they use to source investment alpha, this book is for you. Focusing on the author's three decades of trading experience at leading banks and hedge funds, it covers both discretionary and computer-driven strategies and perspectives on AI-based and quantamental investing using new alternative data, which includes numerous examples and insights of real trades and investment strategies. No mathematical knowledge is required, with the relevant algorithms detailed in the appendices.

Quantitative Hedge Funds also discusses environmental, social and governance (ESG) investing, which has rapidly evolved as the public and institutions demand solutions to global problems such as climate change, pollution and unethical labour practices. ESG investment strategies are migrating out of the long-only space and into hedge funds.

Finally, the advent of big data has led to multiple alternative datasets available for hedge fund managers. The integration of alternative data into the investment process is discussed, together with the rise of so-called quantamental investing, a hybrid of the best of human skill and computer-based technologies.

Contents
- Efficient Markets
- Real Markets
- Discretionary Adventures
- Systematic Profits
- The Factor Game
- AI Again
- ESG Investing
- Towards Quantamental

Readership: Financial students; finance professionals such as investments managers, bankers and lawyers; general public interested in hedge funds and investing.



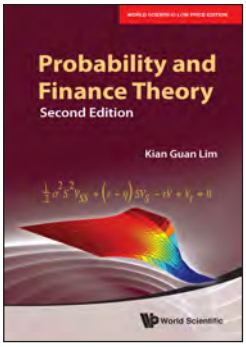
An Undergraduate Introduction to Financial Mathematics, 4th Edition
By J Robert Buchanan
ISBN 9798886130249 • PB • 468pp
Original Price US$88
Indian Edition at Rs 1950 • Year 2024

Anyone with an interest in learning about the mathematical modeling of prices of financial derivatives such as bonds, futures, and options can start with this book, whereby the only mathematical prerequisite is multivariable calculus. The necessary theory of interest, statistical, stochastic, and differential equations are developed in their respective chapters, with the goal of making this introductory text as self-contained as possible.

In this edition, the chapters on hedging portfolios and extensions of the Black–Scholes model have been expanded. The chapter on optimizing portfolios has been completely re-written to focus on the development of the Capital Asset Pricing Model. The binomial model due to Cox–Ross–Rubinstein has been enlarged into a standalone chapter illustrating the wide-ranging utility of the binomial model for numerically estimating option prices. There is a completely new chapter on the pricing of exotic options. The appendix now features linear algebra with sufficient background material to support a more rigorous development of the Arbitrage Theorem. The new edition now contains over 700 exercises.

Contents
- The Theory of Interest
- Discrete Probability
- The Arbitrage Theorem
- Optimal Portfolio Choice
- Forwards and Futures
- Options
- Approximating Option Prices Using Binomial Trees
- Normal Random Variables of Probability
- Random Walks and Brownian Motion
- Black–Scholes Equation & Option Formulas
- Extensions of the Black–Scholes Model
- Derivatives of Black–Scholes Option Prices
- Hedging
- Exotic Options
- Appendix A: Linear Algebra Primer

Readership: Undergraduate students in finance, economics, actuarial science, and applied mathematics; professionals in banking, insurance, actuarial careers, and finance.



Probability and Finance Theory, 2nd Edition
By Kian Guan Lim
ISBN 9780000991805 • PB • 536pp
Original Price US$98
Indian Edition at Rs 1695 • Year 2024

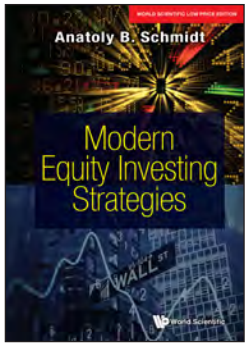
This book is an introduction to the mathematical analysis of probability theory and provides some understanding of how probability is used to model random phenomena of uncertainty, specifically in the context of finance theory and applications. The integrated coverage of both basic probability theory and finance theory makes this book useful reading for advanced undergraduate students or for first-year postgraduate students in a quantitative finance course.

The book provides easy and quick access to the field of theoretical finance by linking the study of applied probability and its applications to finance theory all in one place. The coverage is carefully selected to include most of the key ideas in finance in the last 50 years.

The book serves as a handy guide for applied mathematicians and probabilists, and financial economists. It is a must read for advanced undergraduate and graduate students who wish to work in the quantitative finance area.

Contents
- Probability Distributions
- Conditional Probability
- Laws of Probability
- Theory of Risk and Utility
- State Price and Risk-Neutral Probability
- Single Period Asset Pricing Models
- Stochastic Processes and Martingales
- Dynamic Programming and Multi-period Asset Pricing
- Continuous-Time Asset Pricing Model
- Continuous-Time Option Pricing
- Hedging and More Option Pricing
- Brownian Motion and Technical Trading
- Theory of Markov Chains and Credit Markets
- Interest Rate Modeling and Derivatives
- Risk Measures

Readership: Advanced undergraduate students & 1st year post-graduate students in finance and economics, applied mathematicians, probabilists, financial economists.

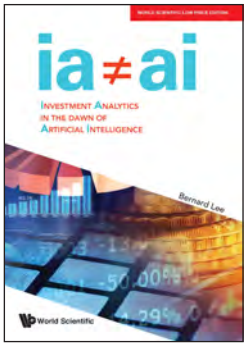


Modern Equity Investing Strategies
By Anatoly B. Schmidt
ISBN 9781944660475 • PB • 352pp
Original Price US$88
Indian Edition at Rs 1550 • Year 2023

This book will satisfy the demand among college majors in Finance and Financial Engineering, and mathematically-versed practitioners for description of both the classical approaches to equity investing and new investment strategies scattered in the periodic literature. Besides the major portfolio management theories (mean variance theory, CAPM, and APT), the book addresses several important topics: portfolio diversification, optimal ESG portfolios, factor models (smart betas), robust portfolio optimization, risk-based asset allocation, statistical arbitrage, alternative data based investing, back-testing of trading strategies, modern market microstructure, algorithmic trading, and agent-based modeling of financial markets. The book also includes the basic elements of time series analysis in the Appendix for self-contained presentation of the material. While the book covers technical concepts and models, it will not overburden the reader with math beyond the Finance undergraduates' curriculum.

Contents
Introduction • **Modern Equity Markets:** Equity Markets: Traders, Orders, & Structures • Models of Dealer Markets • Models of the Limit-Order Markets • **Market Dynamics:** Dynamics of Returns • Price Volatility • Agent-Based Modeling of Financial Markets • **Portfolio Management:** Mean–Variance Portfolio Theory • Portfolio Optimization • Risk-Based Asset Allocation • Factor Models • **Active Trading Strategies:** Technical Analysis-Based Strategies • Arbitrage Strategies • News and Sentiment-Based Strategies • Back-Testing of Trading Strategies • Execution Strategies • **Appendices:** Probability Distributions • Elements of Time Series Analysis • References

Readership: Advanced undergraduate and graduate students, researchers, and practitioners in the fields of quantitative finance & financial engineering, and mathematically-versed individual (retail) investors.



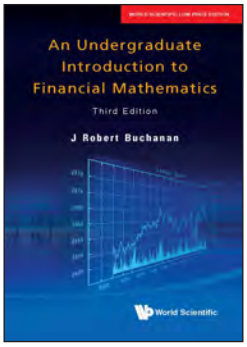
Investment Analytics in the Dawn of Artificial Intelligence
By Bernard Lee
ISBN 9781944660031 • PB • 264pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2022

A class of highly mathematical algorithms works with three-dimensional (3D) data known as graphs. Our research challenge focuses on applying these algorithms to solve more complex problems with financial data, which tend to be in higher dimensions (easily over 100), based on probability distributions, with time subscripts and jumps. The 3D research analogy is to train a navigation algorithm when the way-finding coordinates and obstacles such as buildings change dynamically and are expressed in higher dimensions with jumps.

Our short title "ia≠ ai" symbolizes how investment analytics is not a simplistic reapplication of artificial intelligence (AI) techniques proven in engineering. This book presents best-of-class sophisticated techniques available today to solve high dimensional problems with properties that go deeper than what is required to solve customary problems in engineering today.

Contents
Introduction • Navigation and Vocabulary • Construct Portfolios: Understanding Risk • Objective Functions in Portfolio Construction • Risk and Return Attribution • Portfolio-Level Factor Analysis • A Hedging Use Case • Select Assets: Alpha Selection Using Factors • Standard Derivative Instruments • Decide and Execute: Rebalancing • Forward Scenarios and Historical Simulations • Combining Upside with Black Swan Scenarios • Deliver Reports: Customary Back Office Reporting • Additional Reporting • Compliance Analysis • Data Integrity Validation • Deploy: Deployment Best Practices • Implications of a Post-IA/AI Society

Readership: Professionals looking for a step-by-step "cookbook" on algorithms to build and deploy their own investment analytics processes; C-level executives at leading investment firms to technologists doing hands-on deployments.

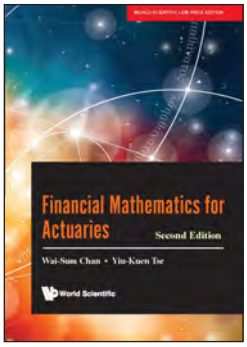


An Undergraduate Introduction to Financial Mathematics, 3rd Edition
By J Buchanan Robert
ISBN 9781944659844 • PB • 484pp
Original Price US$74
Indian Edition at Rs 1395 • Year 2022

This textbook provides an introduction to financial mathematics and financial engineering for undergraduate students who have completed a three- or four-semester sequence of calculus courses. It introduces the theory of interest, discrete and continuous random variables and probability, stochastic processes, linear programming, the Fundamental Theorem of Finance, option pricing, hedging, and portfolio optimization. This third edition expands on the second by including a new chapter on the extensions of the Black-Scholes model of option pricing and a greater number of exercises at the end of each chapter. More background material and exercises added, with solutions provided to the other chapters, allowing the textbook to better stand alone as an introduction to financial mathematics. The reader progresses from a solid grounding in multivariable calculus through a derivation of the Black-Scholes equation, its solution, properties, and applications. The text attempts to be as self-contained as possible without relying on advanced mathematical and statistical topics. The material presented in this book will adequately prepare the reader for graduate-level study in mathematical finance.

Contents
The Theory of Interest • Discrete Probability • Normal Random Variables and Probability • The Arbitrage Theorem • Random Walks and Brownian Motion • Forwards and Futures • Options • Solution of the Black-Scholes Equation • Derivatives of Black-Scholes Option Prices • Hedging • Extensions of the Black-Scholes Model • Optimizing Portfolios • American Options

Readership: Undergraduate students in finance, economics, and applied mathematics; professionals in banking, insurance and finance.



Financial Mathematics for Actuaries, 2nd Edition
By Wai-Sum Chan & Yiu-Kuen Tse
ISBN 9780000988645 • PB • 372pp
Original Price US$45
Indian Edition at Rs 1695 • Year 2020

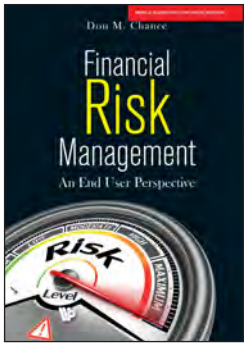
Financial Mathematics for Actuaries is a textbook for students in actuarial science, quantitative finance, financial engineering and quantitative risk management and is designed for a one-semester undergraduate course.

Covering the theories of interest rates, with applications to the evaluation of cash flows, the pricing of fixed income securities and the management of bonds, this textbook also contains numerous examples and exercises and extensive coverage of various Excel functions for financial calculation. Discussions are linked to real financial market data, such as historical term structure, and traded financial securities. The topics discussed in this book are essential for actuarial science students. They are also useful for students in financial markets, investments and quantitative finance. Students preparing for examinations in financial mathematics with various professional actuarial bodies will also find this book useful for self-study.

In this second edition, the recent additions in the learning objectives of the Society of Actuaries Exam FM have been covered.

Contents
Interest Accumulation and Time Value of Money • Annuities • Spot Rates, Forward Rates and the Term Structure • Rates of Return • Loans and Costs of Borrowing • Bonds and Bond Pricing • Bond Yields and the Term Structure • Bond Management • Interest Rates and Financial Securities • Stochastic Interest Rates

Readership: Undergraduate students in actuarial science, quantitative finance, financial engineering and quantitative risk management, and students taking exams in financial mathematics with professional actuarial bodies.



Financial Risk Management
An End User Perspective
By Don M Chance
ISBN 9780000988652 • PB • 860pp
Original Price US$88
Indian Edition at Rs 2650 • Year 2020

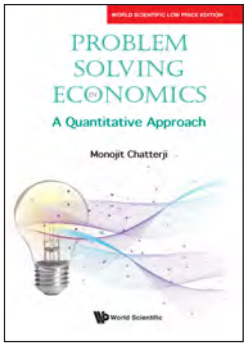
In the field of financial risk management, the 'sell side' is the set of financial institutions who offer risk management products to corporations, governments, and institutional investors, who comprise the 'buy side'. The sell side is often at a significant advantage as it employs quantitative experts who provide specialized knowledge. Further, the existing body of knowledge on risk management, while extensive, is highly technical and mathematical and is directed to the sell side.

This book levels the playing field by approaching risk management from the buy side instead, focusing on educating corporate and institutional users of risk management products on the essential knowledge they need to be an intelligent buyer. Rather than teach financial engineering, this volume covers the principles that the buy side should know to enable it to ask the right questions and avoid being misled by the complexity often presented by the sell side.

Written in a user-friendly manner, this textbook is ideal for graduate and advanced undergraduate classes in finance and risk management, MBA students specializing in finance, and corporate and institutional investors. The text is accompanied by extensive supporting material including exhibits, end-of-chapter questions & problems, solutions, and PowerPoint slides for lecturers.

Contents
Introductory Concepts • Foundations of Financial Risk Management • Managing Market Risk • Managing Non-Market Risks • Accounting, Disclosure, and Governance in Risk Management

Readership: Graduate and advanced undergraduate classes in finance and risk management, MBA students specialising in finance, and corporate and institutional investors.



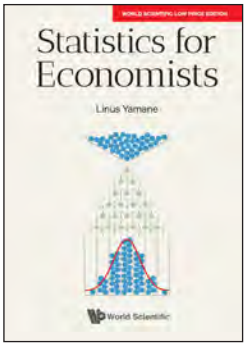
Problem Solving in Economics
A Quantitative Approach
By Monojit Chatterji
ISBN 9798886130683 • PB • 304pp
Original Price US$88
Indian Edition at Rs 1595 • Year 2024

This book reinforces an understanding of Economics by showing how basic mathematics is used to construct models of the economy. By taking wide-ranging examples drawn for virtually all areas of economics, it shows how model-building is an indispensable aid to understanding economics.

It bridges the gap between mathematical analysis and economic logic. For readers, it builds confidence in constructing their own models for purposes of analysis. The book is well-suited for self-study.

Contents
- Fundamental Concepts of Consumer Theory
- Consumer Optimum and Demand
- Generalisations, Applications and Extensions of the Choice Model
- The Firm: Technology, Costs and Supply
- Demand, Supply and the Competitive Market
- Market Power and Imperfect Competition
- Inter-Temporal Economics
- Coordination of Exchange and Production
- Macroeconomic Concepts & Measurement
- Equilibrium and Comparative Statics in Macro Models
- The Classical Labour Market
- The Classical Model of Money, Interest and the Price Level
- Sticky Prices & Keynesian Macroeconomics
- Monetary Economics
- Open Economy Macroeconomics
- Capital Accumulation and Economic Growth

Readership: This book will be of primary interest to students. It starts at a basic level but smoothly climbs into more advanced topics. So, it can profitably be used not only by starting and intermediate undergraduates but also by graduates seeking to convert from another subject to Economics.

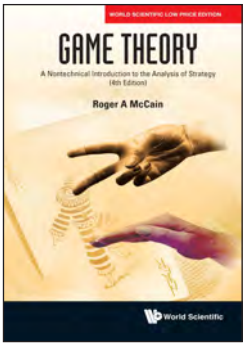


Statistics for Economists
By Linus Yamane
ISBN 9798886130744 • PB • 372pp
Original Price US$58
Indian Edition at Rs 2095 • Year 2024

This first course in statistics is designed for undergraduate students. There are dozens of statistics textbooks in the market. But most of these textbooks are either pitched at a level that is too high or too low for most undergraduate students. Many use calculus and are designed for graduate students in technical fields. Others provide black box formulas without any derivations. This textbook focuses on deriving everything from first principles without using calculus or linear algebra. It is important for students to understand why they are doing what they are doing. Otherwise students cannot distinguish meaningless results from significant results. This textbook gets to the major points quickly and is thus relatively short and very accessible.

Contents
- Preface
- About the Author
- Acknowledgements
- Why Statistics?
- Descriptive Statistics
- Probability
- Probability Distributions
- Special Probability Distributions
- Statistical Inference: Sampling and Sampling Distributions
- Confidence Intervals
- Hypothesis Testing
- Hypothesis Testing with Two Samples
- Simple Regression
- Multiple Regression
- Interpreting Regression Results
- Appendix
- Index

Readership: For undergraduate students who are doing Statistics.

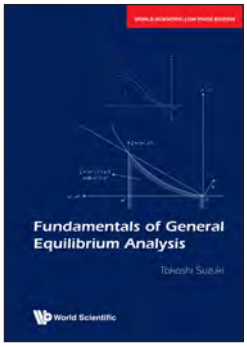


Game Theory, 4th Edition
A Nontechnical Introduction to the Analysis of Strategy
By Roger A McCain
ISBN 9798886130256 • PB • 548pp
Original Price US$108
Indian Edition at Rs 2095 • Year 2024

As with the previous editions, this fourth edition relies on teaching by example and the Karplus Learning Cycle to convey the ideas of game theory in a way that is approachable, intuitive, and interdisciplinary. Noncooperative equilibrium concepts such as Nash equilibrium, mixed strategy equilibria, and subgame perfect equilibrium are systematically introduced in the first half of the book. Bayesian Nash equilibrium is briefly introduced. The subsequent chapters discuss cooperative solutions with and without side payments, rationalizable strategies and correlated equilibria, and applications to elections, social mechanism design, and larger-scale games. New examples include panic buying, supply-chain shifts in the pandemic, and global warming.

Contents
Interactive Decisions: Conflict, Strategy, and Games • Some Foundations
Equilibrium in Normal Form Games: Dominant Strategies and Social Dilemmas • Nash Equilibrium • Games with Two or More Nash Equilibria • Three-Person Games • Probability and Game Theory • Mixed Strategy Nash Equilibria
Sequential and Repeated Play: Sequential Games • Repeated Play • Indefinitely Repeated Play
Cooperation: Cooperative Games in Coalition Function Form • Cooperative Games Without Coalition Functions
Advanced Topics: *N*-Person Games • Duopoly Strategies and Prices • Rationalizable Strategies • Trembling Hands and Correlated Strategies • Voting Games • Social Mechanism Design • Games, Experiments, and Behavioral Game Theory • Evolution and Adaptive Learning

Readership: Undergraduates and graduates studying game theory or those interested to know more about game theory.



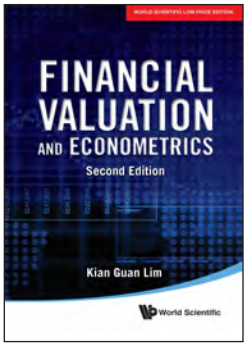
Fundamentals of General Equilibrium Analysis
By Takashi Suzuki
ISBN 9780000990358 • PB • 436pp
Original Price US$118
Indian Edition at Rs 1895 • Year 2021

The aim of this book is to incorporate Marshallian ideas such as external increasing returns and monopolistic competitions into the general equilibrium framework of Walrasian tradition. New chapters and sections have been added to this revised and expanded edition of *General Equilibrium Analysis of Production and Increasing Returns* (World Scientific, 2009).

The new material includes a presentation of equilibrium existence and core equivalence theorems for an infinite horizon economy with a measure space of consumers. These results are currently the focus of extensive studies by mathematical theorists, and are obtained by an application of an advanced mathematical concept called saturated (super-atomless) measure space. The second major change is the inclusion of a simple toy model of a liberal society which implements the difference principle proposed by J Rawls as a principle of distributive justice. This new section opens up a possibility to connect theoretical economics and political philosophy. Thirdly, the author presents the marginal cost pricing equilibrium and discusses welfare properties of the external increasing returns, which also belong to Marshall/ Pigou tradition of the Cambridge school. Finally, a new mathematical appendix treats basics of singular homology theory. Although the fixed point theorem is originally a theorem of algebraic topology, most economic students know its proof only in the context of the differentiable manifold theory presented by J Milnor. Considering the significance of the fixed point theorem and its playing a key role in general equilibrium theory, the purpose of this new appendix is to provide readers with the idea of a proof of Brower's fixed point theorem from the "right place".

Contents
A Brief History of Equilibrium Analysis • Theory of Exchange • Theory of Production • Appendices

Readership: Graduate students and researchers of mathematical economics, game theory, and microeconomics.



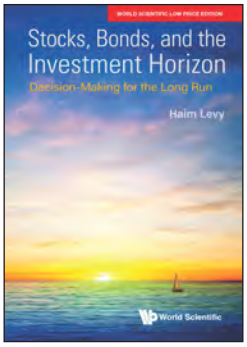
Financial Valuation and Econometrics, 2nd Edition
By Kian Guan Lim
ISBN 9780000988669 • PB • 604pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2020

This book is an introduction to financial valuation and financial data analyses using econometric methods. It is intended for advanced finance undergraduates & graduates.

This book attempts to bring together several important domains in financial valuation theory, in econometrics modelling, and in the empirical analyses of financial data.
This is a handy book for finance professionals doing research to easily access the key techniques in data analyses using regression methods. Students learn all 3 skills at once — finance, econometrics, and data analyses. It provides for very solid and useful learning for advanced undergraduate and graduate students who wish to work in financial analyses, risk analyses, and financial research areas.

Contents
Probability Distribution and Statistics • Statistical Laws and Central Limit Theorem/ Application: Stock Return Distributions • Two-Variable Linear Regression/Application: Financial Hedging • Model Estimation/ Application: Capital Asset Pricing Model • Constrained Regression/Application: Cost of Capital • Time Series Analysis/Application: Inflation Forecasting • Random Walk/ Application: Market Efficiency • Autoregression and Persistence/Application: Predictability • Estimation Errors and T-Tests/ Application: Event Studies • Multiple Linear Regression and Stochastic Regressors • Dummy Variables and ANOVA/Application: Time Effect Anomalies • Specification Errors • More Multiple Linear Regressions/Application: Multi-Factor Asset Pricing • Unit Root Processes/Application: Purchasing Power Parity
For complete table of contents, email us at marketing@feelbooks.in

Readership: Graduate students, researchers and academics in pattern recognition.

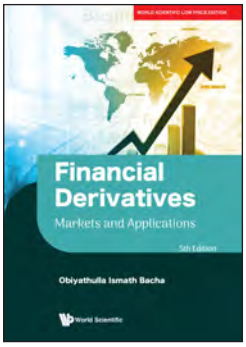


Stocks, Bonds, and the Investment Horizon
Decision-Making for the Long Run
By Haim Levy
ISBN 9798886131109 • PB • 496pp
Original Price US$148
Indian Edition at Rs 3095 • Year 2024

This book analyzes the effect of the investment horizon on the optimal diversification, specifically between stocks and bonds: Should a young investor and an older investor have the same portfolio? Is it recommended to savers for retirement to change the asset allocation between stocks and bonds as they grow older, as life cycle mutual funds do in practice? Is the idiom "stocks for the long run" backed by scientific evidence? We analyze for which horizons it is recommended to employ the popular Mean–Variance rule and for which horizons employing this rule induces an economic distortion, hence a loss to the investors. It is shown that all relevant parameters for investment choice (means, variances, and correlations) change in a non-linear way with the horizon, a fact that makes the investment horizon crucial for investment choices.

Contents
- Asset Allocation and the Horizon
- The Distribution of Returns and the Horizon
- Mean–Variance, Stochastic Dominance, and the Investment Horizon
- Performance Indices and the Investment Horizon
- Stocks Versus Bonds
- Risk and the Horizon
- Stock Risk: Do Historical Crashes Tell the Whole Story? The Black Swan Hypothesis
- Discrete and Continous Returns and the Investment Horizon
- Almost Stochastic Dominance Rules and the Horizon
- Prospect Theory and the Horizon
- The Change in the Relative Attractiveness of Stocks and Bonds with the Horizon with a Riskless Asset

Readership: MBA, MA and PhD students and researchers specialising in economics and finance. Practioners who rely on reported Sharpe ratio in selecting their investment.

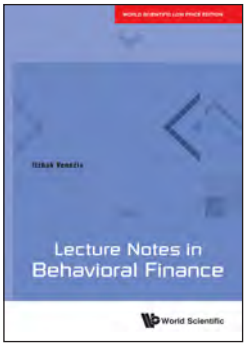


Financial Derivatives, 5th Edition
Markets and Applications
By Obiyathulla Ismath Bacha
ISBN 9798886130621 • PB • 560pp
Original Price US$88
Indian Edition at Rs 2399 • Year 2024

This book is designed for beginners who possess no previous knowledge or familiarity with derivatives. Written in an easy-to-read style, it guides readers through the challenging and complex world of forwards, futures, options, and swaps. The emphasis on Asian markets and contracts enables easier understanding. Financial derivative contracts from Malaysia and select contracts from Thailand, Singapore, and Hong Kong derivative markets are covered. For each derivative contract, their three common applications hedging, arbitrage, and speculating are shown with fully worked out examples. Extensive use of illustrations, graphics, and vignettes provide for easy comprehension of the underlying logic of derivatives.

Contents
- Derivatives: Introduction and Overview
- Derivative Markets and Trading
- Forward and Futures Markets: Pricing and Analysis
- Stock Index Futures Contracts: Analysis and Applications
- Interest Rate Futures Contracts and Currency Futures Contracts
- Introduction to Options
- Equity, Equity Index, and Currency Options
- Option Strategies and Payoffs
- Option Pricing
- Replication, Synthetics, and Arbitrage
- Options in Corporate Finance and Real Options
- Interest Rate Swaps, Credit, and Other Derivatives
- Derivative Instruments and Islamic Finance

Readership: University students studying finance and/or financial derivatives and practitioners seeking an in-depth understanding of financial derivatives.



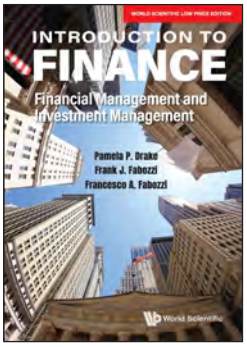
Lecture Notes in Behavioral Finance
By Itzhak Venezia
ISBN 9798886130713 • PB • 288pp
Original Price US$48
Indian Edition at Rs 1595 • Year 2024

This volume presents lecture notes for a course in behavioral finance, most suitable for MBA students, but also adaptable for a PhD class. These lecture notes are based on the author's experience in teaching behavioral finance classes at Bocconi University (at the PhD level) and at the Academic College of Tel Aviv-Yaffo (MBA).

Written in a way that is user-friendly for both teachers and students, this book is the first of its kind and consolidates all the material necessary for a course on behavioral finance, balancing psychological concepts with financial applications. Material formerly presented only in academic papers has been transformed to a format more suitable for students, while the most important issues have been highlighted in boxes that can form the basis of a lecturer's teaching slides.

Contents
Psychological and Financial Foundations of Behavioral Finance:
- Introduction: The History of Behavioral Finance & the Impetus for Its Emergence
- A Review of Traditional Decision Theory: The Mean–Variance Rule & Utilty Theory
- Critique of Utility Theory, the Assumption of Rationality and the Efficient Markets Hypothesis
- Kahneman and Tversky's Essential Cognitive Biases
- Prospect Theory

Applications of Behavioral Finance:
- The Disposition Effect
- Overconfidence
- Herding
- Overreaction and Underreaction
- The Equity Premium Puzzle and Myopic Loss Aversion
- The Home Bias
- Limits to Arbitrage
- Market Sentiment
- Biases in Savings and Insurance
- The Hot Hand
- Accounting Anomalies
- Appearance & Disappearance of Anomalies



Introduction to Finance
Financial Management & Investment Management
By Pamela P Drake, Frank J Fabozzi and Francesco A Fabozzi
ISBN 9781944660673 • PB • 828pp
Original Price US$188
Indian Edition at Rs 2295 • Year 2023

This book covers the fundamentals of financial management and investment management without getting into the highly technical topics and mathematical rigor. It also provides a practitioner-oriented approach to financial and investment management. The field of finance covers several specialty areas. The two most important ones which set the foundations for the other specialty areas are financial management & investment management, & these are the two major topics covered in the book.

Contents
What is Finance?
Financial System and The Players:
Financial Assets, Markets, & Intermediaries
The Financial System's Cast of Characters
Fundamental Concepts:
Financial Statements
Mathematics of Finance
Financial Management:
Business Finance
Financial Strategy and Financial Planning
Dividend and Dividend Policies
The Corporate Financing Decision
Entrepreneurial Finance
Financial Risk Management
Capital Budgeting: Estimating Cash Flows
Capital Budgeting Evaluation Techniques
Investment Management:
Overview of Investment Management
The Different Types of Risk in Investing
Company Analysis
Valuing Common Stock
The Theory of Portfolio Selection
Asset Pricing Theory
Investing in the Common Stock Market
Interest Rates & the Structure of Interest Rates
Investing in the Bond Market
Derivatives:
Derivatives for Controlling Risk

Readership: For individuals who would like to understand the fundamentals of finance as well as college professors looking for a book that is not overly technical that can be used in an introductory course for students.

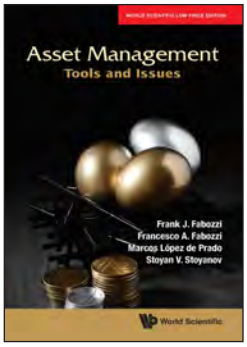
Financial Management in the Digital Economy
By David Lee Kuo Chuen, Ding Ding, *et al.*
ISBN 9781944660192 • PB • 180pp
Original Price US$38
Indian Edition at Rs 1595 • Year 2022

Financial Management in the Digital Economy adopts an integrated approach to synthesize the various areas in finance into a consolidated framework and implements the theories and practices in the world of digital economy. The first part of this book extends the fundamentals of asset management to digital assets, and also covers topics like cryptocurrency and blockchain technology. The next part of the volume discusses the concept of financial inclusion, digital innovations and technology-enabled business model innovations in the financial sector.

This book reviews the finance and FinTech ecosystem to provide insights into the most important technological developments in the financial services to better understand the future trends, challenges as well as opportunities for both the incumbents and the start-ups in the fast-changing finance world.

Contents
- Bitcoin Blockchain Explained: Development and Challenges
- The Evolution of Blockchains
- Cryptography and Its Role in Blockchain
- Cryptocurrency Fork
- Application of Blockchain Technology in Private Equity
- Digital Payment
- Digital Banks: Igniting Platform Revolution in Banking
- Digital Transformation Banks: The Case of DBS
- Index

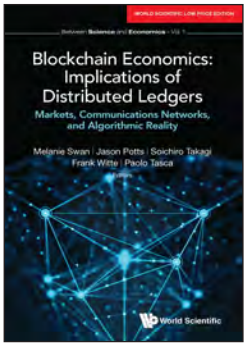
Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of finance, financial technology, business management and innovation.



Asset Management
Tools and Issues
By Frank J. Fabozzi, *et al.*
ISBN 9780000990389 • PB • 516pp
Original Price US$148
Indian Edition at Rs 1850 • Year 2021

This book provides a description of the tools used in asset management as well as a more in-depth explanation of specialized topics and issues covered in the companion book, *Fundamentals of Institutional Asset Management*. The topics covered include the asset management business and its challenges, the basics of financial accounting, securitization technology, analytical tools (financial econometrics, Monte Carlo simulation, optimization models, and machine learning), alternative risk measures for asset allocation, securities finance, implementing quantitative research, quantitative equity strategies, transaction costs, multifactor models applied to equity and bond portfolio management, and backtesting methodologies. This pedagogic approach exposes the reader to the set of interdisciplinary tools that modern asset managers require in order to extract profits from data and processes.

Contents
Asset Management Companies • Fundamentals of Financial Statements • Securitization & the Creation of Residential Mortgage-Related Securities • Financial Econometrics Tools for Asset Management • Monte Carlo Applications to Asset Management • Optimization Models for Asset Management • Machine Learning and Its Applications to Asset Management • Risk Measures & Asset Allocation Problems • Securities Lending and Its Alternatives in the Equity Market • Repurchase Agreements for Financing Positions and Shorting in the Bond Market • Implementable Quantitative Research • Quantitative Equity Strategies • Challenges in Implementing Equity Factor Investing Strategies • Transaction and Trading Costs • Managing a Common Stock Portfolio with a Multifactor Risk Model Using Fundamental Factor • Managing a Bond Portfolio Using a Multifactor Risk Model • Backtesting Investment Strategies • Monte Carlo Backtesting Method

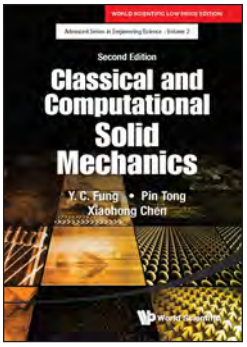


Blockchain Economics:
Implications of Distributed Ledgers
Markets, Communications Networks, and Algorithmic Reality
Edited By Melanie Swan, Jason Potts, Soichiro Takagi, Frank Witte & Paolo Tasca
ISBN 9780000988461 • PB • 320pp
Original Price US$98
Indian Edition at Rs 1295 • Year 2020

This practical introduction explains the field of Blockchain Economics, the economic models emerging with the implementation of distributed ledger technology. These models are characterized by three factors: open platform business models, cryptotoken money supplies, and Initial Coin Offerings as a new and official form of financing. The book covers a variety of approaches from a business and academic perspective, ranging from financial theory, complexity, and open innovation networks to behavioral economics, self-determination theory, public policy, and financial inclusion. Unlike existing titles, this book draws on worldwide blockchain industry experts to define the new discipline of Blockchain Economics and provide novel theoretical and conceptual resources for the future of this fast-developing economy. The primer also highlights the wider theme of blockchain as an institutional technology, in that many value transfer interactions might be shifted to automated networks, decreasing the number of human-operated institutions.

Contents
Introduction • Economic Theory and Market Structure • Blockchain Economic Open Network Innovation • Social Science and Behavioral Economics • Financial Theory and Complexity Science • Policy, Regulation, and Incentives • Income Inequality and Economic Inclusion • Glossary • Index

Readership: Academic scholars: economics, political theory, finance, network science, social theory, behavioral economics: government policy-makers: lawyers and regulators: advanced career researchers, government leaders, and corporate CEOs as well as those just starting in the field.



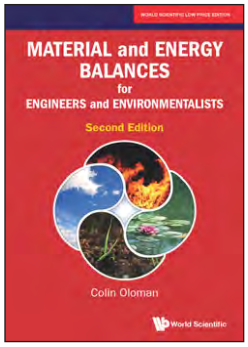
Classical and Computational Solid Mechanics, 2nd Edition
By Y C Fung, Pin Tong & Xiaohong Chen
ISBN 9780000988508 • PB • 860pp
Original Price US$98
Indian Edition at Rs 1795 • Year 2020

The second edition provides an update of the recent developments in classical and computational solid mechanics. The structure of the book is also updated to include five new areas: Fundamental Principles of Thermodynamics and Coupled Thermoelastic Constitutive Equations at Large Deformations, Functional Thermodynamics and Thermoviscoelasticity, Thermodynamics with Internal State Variables and Thermo-Elasto-Viscoplasticity, Electro-Thermo-Viscoelasticity/Viscoplasticity, and Meshless Method. These new topics are added as self-contained sections or chapters. Many books in the market do not cover these topics.
This invaluable book has been written for engineers and engineering scientists in a style that is readable, precise, concise, and practical. It gives the first priority to the formulation of problems, presenting the classical results as the gold standard, and the numerical approach as a tool for obtaining solutions.

Contents
Introduction • Tensor Analysis • Stress Tensor • Analysis of Strain • Conservation Laws • Elastic and Plastic Behavior of Materials • Linearized Theory of Elasticity • Solution of Problems in Linearized Theory of Elasticity by Potentials • Hamilton's Principle, Wave Propagation, Applications of Generalized Coordinates • Thermodynamics and Thermoelasticity • Large Deformation • Viscoelasticity and Thermoviscoelasticity • Electro-Thermo-Viscoelasticity/Viscoplasticity • Incremental Approach to Solving Some Nonlinear Problems • Finite Element Methods

For complete table of contents, email us at marketing@feelbooks.in

Readership: Researchers, academics, graduate and senior undergraduates in biomedical engineering, mechanical engineering, aeronautical and aerospace engineering, civil engineering and applied mechanics.



Material and Energy Balances for Engineers and Environmentalists, 2nd Edition
By Colin Oloman
ISBN 9798886131406 • PB • 436pp
Original Price US$78
Indian Edition at Rs 2095 • Year 2025

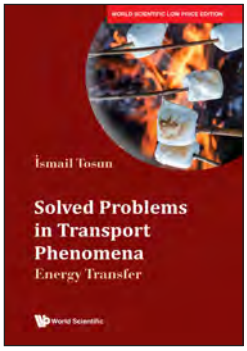
Material and energy (M&E) balances are fundamental to biological, chemical, electrochemical, photochemical and environmental engineering disciplines and important in many fields related to sustainable development.

This comprehensive compendium presents the basic M&E balance concepts and calculations in a format easily digested by students, engineering professionals and those concerned with related environmental issues.

The useful reference text includes worked examples for each chapter and demonstrates process balances in the framework of M&E concerns of the 21st century. The additional problems and solutions in the Appendix embrace a wide range of subjects, from fossil fuels to fuel cells, solar energy, space stations, carbon dioxide capture and sodium-ion batteries.

Contents
- An Introduction
- The General Balance Equation
- Process Variables and Their Relationships
- Material and Energy Balances in Process Engineering
- Material Balances
- Energy Balances
- Simultaneous Material and Energy Balances
- Unsteady-State Material and Energy Balances

Readership: Researchers, professionals, academics, undergraduate and graduate students in chemical engineering, environmental engineering and industrial chemistry.



Solved Problems in Transport Phenomena
Energy Transfer
By Ismail Tosun
ISBN 9798886130911 • PB • 400pp
Original Price US$148
Indian Edition at Rs 1395 • Year 2024

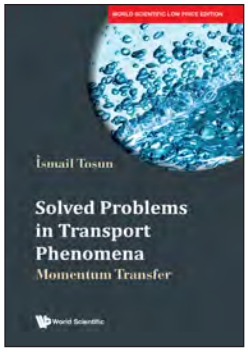
Transport Phenomena is an umbrella term to describe the fundamental processes of momentum, energy, and mass transfer.

This unique compendium covers energy transfer at the microscopic and macroscopic levels in the three stages of problem-solving, namely formulation, simplification, and mathematical solution. The book does not overwhelm students with a large repertoire of problems. Instead, it highlights clear and easy presentation to help students grasp the methodology in problem-solving.

This useful reference text benefits upper undergraduate and graduate level students in the fields of chemical, mechanical, petroleum, and environmental engineering.

Contents
- Conservation Equations
- Introduction to Heat Transfer
- Forced Convection Heat Transfer Correlations
- Steady-State Conduction without Generation of Heat
- Steady-State Conduction with Generation of Heat
- Unsteady-State Conduction
- Forced Convection Heat Transfer
- Natural Convection Heat Transfer
- Heat Transfer in Microchannels
- Heat Exchangers
- Radiation Heat Transfer
- Appendices

Readership: Researchers, professionals, academics, and graduate students in chemical engineering, mechanical engineering, petroleum engineering and environmental engineering.



Solved Problems in Transport Phenomena
Momentum Transfer
By Ismail Tosun
ISBN 9798886130959 • PB • 276pp
Original Price US$98
Indian Edition at Rs 1295 • Year 2024

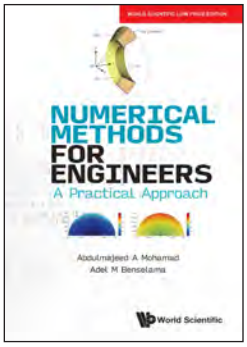
Transport Phenomena is an umbrella term to describe the fundamental processes of momentum, energy, and mass transfer.

This unique compendium covers momentum transfer at the microscopic and macroscopic levels in the three stages of problem-solving, namely formulation, simplification, and mathematical solution. The book does not overwhelm students with a large repertoire of problems. Instead, it highlights clear and easy presentation to help students grasp the methodology in problem-solving.

This useful reference text benefits upper undergraduate and graduate level students in the fields of chemical, mechanical, civil, and environmental engineering.

Contents
- Introduction
- Fluid Statics
- Liquids in Rigid-Body Motion
- Flow Due to Motion of Boundaries and/or Gravity
- Flow Due to Pressure Gradient
- Flow Due to Pressure Gradient and Motion of Boundaries
- Flow of Non-Newtonian Fluids
- Creeping Flow
- Lubrication Approximation
- Flow in Microchannels
- Order of Magnitude Analysis
- Two-Dimensional Flow
- Macroscopic Balances
- Appendix A: Vector and Tensor Algebra
- Appendix B:Constants and Conversion Factors

Readership: Researchers, professionals, academics, and graduate students in chemical engineering, mechanical engineering, civil engineering and environmental engineering.



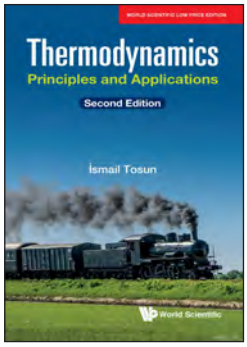
Numerical Methods for Engineers
A Practical Approach
By Abdulmajeed A Mohamad &
Adel M Benselama
ISBN 9780000991775 • PB • 300pp
Original Price US$58
Indian Edition at Rs 1995 • Year 2024

The unique compendium is an introductory reference to learn the most popular numerical methods cohesively. The text focuses on practical applications rather than on abstract and heavy analytical concepts. The key elements of the numerical methods are Taylor series and linear algebra. Based on the authors' years of experience, most materials on the text are tied to those elements in a unified manner.

The useful reference manual benefits professionals, researchers, academics, senior undergraduate and graduate students in chemical engineering, civil engineering, mechanical engineering and aerospace engineering.

Contents
- Fundamentals: Taylor Series
- Linear Algebra
- Interpolation and Fitting
- Nonlinear Equations
- Numerical Differentiation and Integration
- Ordinary Differential Equations: Initial Value Problems
- Ordinary Differential Equations: Boundary Value Problems
- Partial Differential Equations
- Diffusion Equation (Parabolic Equation)
- Laplace and Poisson Equations (Elliptic Equations)
- Advection and Avection–Diffusion Equations
- Wave Equations

Readership: Researchers, professionals, academics, undergraduate and graduate students in chemical engineering, civil engineering and mechanical engineering.



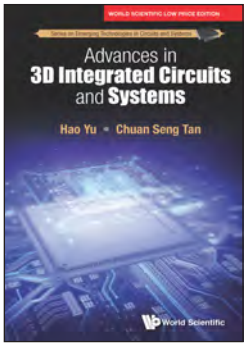
Thermodynamics, 2nd Edition
Principles and Applications
By Ismail Tosun
ISBN 9780000990341 • PB • 536pp
Original Price US$128
Indian Edition at Rs 1995 • Year 2021

Thermodynamics is considered the core engineering course in many engineering disciplines. Since the laws of thermodynamics are expressed in abstract terms, it is the one of the most challenging courses encountered by students during their undergraduate education. This eminent compendium provides a firm grasp of the abstract concepts, and shows how to apply these concepts to solve practical problems with numerous clear examples.

Answers to all problems are provided. Four additional chapters are illuminated to show students how to deal with the thermodynamic problems involving nonideal pure substances as well as multicomponent mixtures. The concepts are highlighted with utmost clarity in simple language. Mathcad worksheets are provided in problems dealing with the cubic equations of state.

Contents
- Introduction
- Calculation of Work in Reversible and Irreversible Processes
- Pressure–Volume–Temperature Relations for Pure Substances
- The First Law of Thermodynamics
- The Second Law of Thermodynamics
- Power and Refrigeration Cycles
- Equation of State
- Thermodynamic Property Relations
- Calculation of ΔH, ΔU, and ΔS for Pure Substances
- Calculation of ΔH, ΔU, and ΔS for Gas Mixtures
- Appendices

Readership: Researchers, academics, professionals, undergraduate and graduate students in chemical engineering, mechanical engineering and energy studies.



Advances in 3D Integrated Circuits and Systems
By Hao Yu & Chuan Seng Tan
ISBN 9798886131307 • PB • 392pp
Original Price US$58
Indian Edition at Rs 1695 • Year 2025

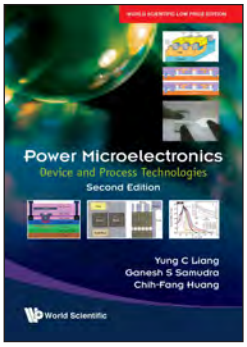
3D integration is an emerging technology for the design of many-core microprocessors and memory integration. This book, *Advances in 3D Integrated Circuits and Systems*, is written to help readers understand 3D integrated circuits in three stages: device basics, system level management, and real designs.

Contents presented in this book include fabrication techniques for 3D TSV and 2.5D TSI; device modeling; physical designs; thermal, power and I/O management; and 3D designs of sensors, I/Os, multi-core processors, and memory.

Advanced undergraduates, graduate students, researchers and engineers may find this text useful for understanding the many challenges faced in the development and building of 3D integrated circuits and systems.

Contents
- Introduction
- **Device Modeling:**
- Fabrication
- Device Model
- **Physical Design:**
- Macromodel
- TSV Allocation
- Testing
- **Thermal Management:**
- Power and Thermal System Model
- Microfluidic Based Cooling
- **I/O Management:**
- Power I/O Management
- Signal I/O Management
- Sensor
- I/O
- Microprocessor
- Non-volatile Memory

Readership: Advanced undergraduates, graduate students, researchers and professionals dealing with 3D Integrated Circuits and Systems.



Power Microelectronics, 2nd Edition
Device and Process Technologies
By Yung C Liang, Ganesh S Samudra and Chih-Fang Huang
ISBN 9780000991676 • PB • 608pp
Original Price US$219
Indian Edition at Rs 1795 • Year 2024

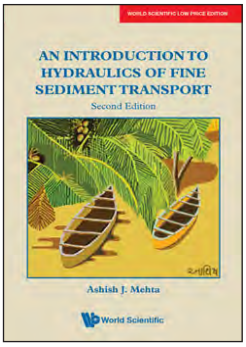
"This is an excellent reference book for graduates or undergraduates studying semiconductor technology, or for working professionals who need a reference for detailed theory and working knowledge of processes in the field of power semiconductor devices."

— IEEE Electrical Insulation Magazine

This descriptive textbook provides a clear look at the theories and process technologies necessary for understanding the modern power semiconductor devices, i.e. from the fundamentals of p-n junction electrostatics, unipolar MOSFET and superjunction structures, bipolar IGBT, to the most recent wide bandgap SiC and GaN devices. It also covers their associated semiconductor process technologies. Real examples based on actual fabricated devices, with the process steps described in clear detail are especially useful. This book is suitable for university courses on power semiconductor or power electronic devices. Device designers and researchers will also find this book a good reference in their work, especially for those focusing on the advanced device development and design aspects.

Contents
Introduction • Carrier Physics and Junction Electrostatics • Bipolar Junction Diode • Power Metal–Oxide–Semiconductor Field-Effect Transistor • Insulated-Gate Bipolar Transistor • Superjunction Structures • Silicon Carbide Power Devices • Gallium Nitride Power Devices • Fabrication & Modeling of Power Devices • Practical Case Studies in Silicon Power Devices • Practical Case Studies in Wide Bandgap Power Devices

Readership: Researchers, academics, professionals, final-year undergraduate and graduate students in circuits & systems and electrical & electronic engineering.



An Introduction to Hydraulics of Fine Sediment Transport, 2nd Edition
By Ashish J. Mehta
ISBN 9798886131284 • PB • 1056pp
Original Price US$158
Indian Edition at Rs 2695 • Year 2025

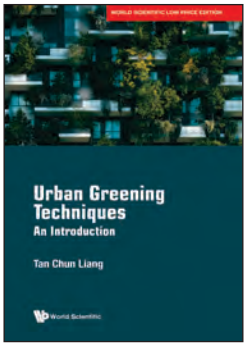
This book expounds the hydraulics of fine sediment which is almost ubiquitously found in coastal and estuarine waters, and in rivers, lakes, and reservoirs.

In this second edition most of the chapters have been substantially updated, rewritten, and expanded. Overall, a significant change has also been made throughout by replacing sediment concentration, a unit dependent quantity at the heart of numerous descriptions, measurements, and calculations, with the nondimensional sediment volume fraction. It marks a divergence in the manner in which fine sediment transport data and calculations are conventionally presented.

The book is mainly written for civil engineering seniors and graduate students, to offer a comprehensive foundation in hydraulics of fine sediment. The book is also a useful reference for researchers interested in the effects of physical chemistry and biology on fine sediment transport in water and to an extent on coastal and estuarine morphodynamics, sediment transport, port and harbor engineering, and applied shallow watwer marine physics. The book is also recommended reading for those interested in understanding particle transport in water.

Contents
Fluid Flow and Wave Motion • Sediment Classification • Flocculation and Floc Properties • Fine Sediment Properties • Transport Load • Settling and Deposition • Bed Formation • Erosion • Fluid Mud Properties • Wave–Mud Processes • Sedimentation Phenomena

Readership: Teachers, researchers, upper division undergraduates and graduate students in civil engineering, environmental engineering and coastal geology; Courses in sediment transport, port and harbor engineering, and applied shallow watwer marine physics.



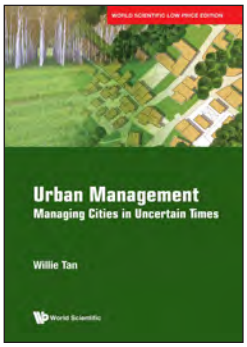
Urban Greening Techniques
An Introduction
By Tan Chun Liang
ISBN 9798886131215 • PB • 216pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2025

Greenery is an integral part of the sustainable planning and design ethos. Besides beautifying the environment, it can also help alleviate adverse impacts of urbanisation such as the Urban Heat Island effect. This book provides an introduction to the various technologies and techniques that facilitate the urban greening process. Each chapter introduces the concept of urban greenery at different scales (city, precinct and plant), as well as relevant methods and considerations for implementation. Assessment frameworks are provided to maximise the benefits of greenery, whilst minimising disservices associated with poor planning, execution or maintenance of greenery or greenery systems. Simple exercises and online resources are provided to illustrate how concepts from this book can be applied in practice.

This textbook is essential reading for anyone interested in urban greenery and how it can make a tangible positive impact on our built environment: from students in the architecture, landscape architecture and building construction disciplines, to urban planners, building owners, designers and facility managers who wish to make more informed choices when incorporating greenery into the urban environment during the planning, design, construction and maintenance stages.

Contents
- Introduction
- Urban Greenery
- City-Scale Greenery
- Precinct-Scale Greenery
- Plant-Scale Greenery
- Solutions to Exercises

Readership: Students of the interior design, architecture and landscape architecture discipline, building owners and developers, designers, architects and landscape architects, horticulturists, building and facility managers, and scientists and researchers in the field of building science, landscape design, and maintainability.



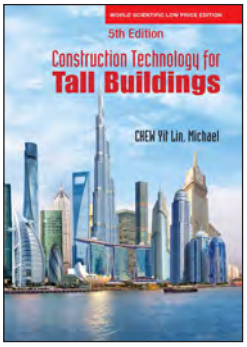
Urban Management
Managing Cities in Uncertain Times
By Willie Tan
ISBN 9798886130263 • PB • 292pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2024

This book is about the management of cities amid the major challenges to fast growing cities as well as the struggling ones. It discusses trends in urbanization, urban challenges, the urban management approach, theories of the state and urban management, building capacity, urban planning, local economic development, housing, urban service delivery, public utilities, social services, general urban services, and transport. The book emphasizes general principles rather than specific case studies on managing cities.

The book is of interest to practitioners and students in the built environment, including mayors, urban managers, urban planners, developers, lenders, insurers, architects, engineers, project managers, and other consultants, contractors, and suppliers.

Contents
- Introduction to Urban Management
- States and Urban Management
- Building Capacity
- Urban Planning
- Local Economic Development
- Housing
- Urban Service Delivery
- Public Utilities
- Social Services
- General Urban Services
- Transport

Readership: Practitioners and students in the built environment including mayors, urban managers, urban planners, developers, lenders, insurers, architects, engineers, project managers, and other consultants, contractors, and suppliers.



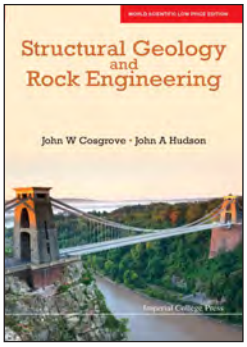
Construction Technology for Tall Buildings, 5th Edition
By Michael Yit Lin Chew
ISBN 9781944660925 • PB • 420pp
Original Price US$98
Indian Edition at Rs 3195 • Year 2024

This 5th edition covers the latest practices and processes of various alternative methods for the construction of tall buildings from foundation to roof. The text progresses through the stages of site investigation, excavation and earthmoving, foundation construction, basement construction, structural systems for the superstructure, site and material handling, wall and floor construction, external wall and roof construction. The planning, safety and environmental considerations, methods, materials, equipment, and construction sequence of the various proprietary systems for each of these respectively stages are discussed.

The target readers are practitioners and students in building and construction professions including architecture, engineering, project and facilities management, building and construction management, real estate, quantity and land surveying.

Contents
- Assembly of Building
- Safety and Health
- Site Investigation
- Foundation
- Basement Construction
- Materials Handling and Mechanisation
- Wall and Floor Construction
- External Wall Construction
- Roof Construction

Readership: Undergraduate students and practitioners in architecture, civil engineering, building, real estate, construction, project and facilities management, and quantity and land surveying.



Structural Geology and Rock Engineering
By John W Cosgrove & John A Hudson
ISBN 9780000991843 • PB • 552pp
Original Price US$70
Indian Edition at Rs 2195 • Year 2024

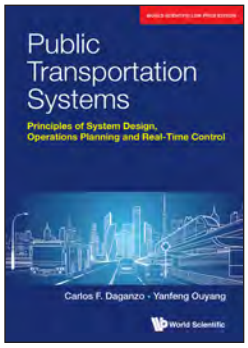
The exploration and extraction of the earth's resources are key issues in global industrial development. In the 21st century, emphasis has increasingly being placed on geo-engineering safety, engineering accountability and sustainability. With focus on rock engineering projects, *Structural Geology and Rock Engineering* uses case studies and an integrated engineering approach to provide an understanding of projects constructed on or in rock masses. Based on Professors Cosgrove and Hudson's university teaching at Imperial College London, as well as relevant short course presentations, it explains the processes required for engineering modelling, design and construction.

The first half of the book provides step-by-step presentations of the principles of structural geology and rock mechanics with special emphasis on the integration between the two subjects. The second half of the book turns principles into practice. A wealth of practical engineering examples are presented, including evaluations of bridge foundations, quarries, dams, opencast coal mining, underground rock engineering, historical monuments and stone buildings.

This up-to-date, well-illustrated guide is ideal for teachers, researchers and engineers interested in the study and practice of rock-based projects in engineering.

Contents
- Introduction and Purpose of the Book
- Structural Geology Principles
- Rock Mechanics Principles
- Illustrative Synthesis Case Example: The Clifton Suspension Bridge, UK
- Quarries
- Dams
- Opencast Coal Mining
- Underground Rock Engineering and Risk
- Historical Monuments & Stone Buildings
- Concluding Summary

Readership: Teachers, researchers and engineers interested in the study and practice of rock-based projects in engineering.



Public Transportation Systems
Principles of System Design, Operations Planning and Real-Time Control
By Carlos F. Daganzo and Yanfeng Ouyang
ISBN 9781944660321 • PB • 512pp
Original Price US$68
Indian Edition at Rs 2195 • Year 2023

This unique book explains how to think systematically about public transportation through the lens of physics models. The book includes aspects of system design, resource management, operations and control. It presents both, basic theories that reveal fundamental issues, and practical recipes that can be readily used for real-world applications. The principles conveyed in this book cover not only traditional transit modes such as subways, buses and taxis but also the newer mobility services that are being enabled by advances in telematics and robotics.

Although the book is rigorous, it includes numerous exercises and a presentation style suitable for senior undergraduate or entry-level graduate students in engineering. The book can also serve as a reference for transportation professionals and researchers keen in this field.

Contents

- Transit Basics
- Analysis Tools
- Planning — General Ideas
- Planning — Shuttle Systems
- Planning — Corridors
- Planning — Networks
- Planning — Flexible Transit
- Management — Vehicle Fleets
- Management — Staffing
- Operations — Reliable Transit Service
- Epilogue: Economics and Pricing

Readership: Researchers, professionals, senior undergraduate and graduate students in civil engineering, systems engineering and operations management.

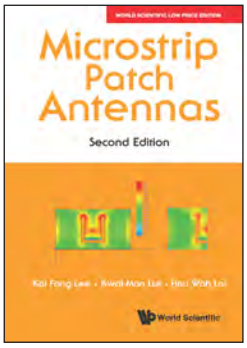
Managing Infrastructure Projects
By Willie Tan
ISBN 9781944660048 • PB • 204pp
Original Price US$48
Indian Edition at Rs 1095 • Year 2022

This book is about managing the infrastructure development cycle from project initiation to the end of the operation and maintenance phase. It focuses on the Public-Private Partnership (PPP) contract and, from this perspective, private and public sector procurement are variations. Designed for students from different backgrounds such as information technology, business, architecture, quantity surveying, urban planning, project management, engineering, construction, facilities management, transport, finance, economics, and law, the book provides a structured guide to these diverse students as well as researchers, public officials, project sponsors, lenders, developers, contractors, subcontractors, suppliers, investors, infrastructure fund managers, insurers, facilities managers, non-government organizations, and consultants such as designers, engineers, environmental specialists, legal advisors, and brokers.

The book presents general principles that are applicable in different countries, particularly in the developing world where markets and other institutions are less developed and uses examples to clarify ideas.

Contents
Introduction to Infrastructure • The Stages of Infrastructure Development • Project Identification • Feasibility Study • Project Preparation • Tender • Sponsor's Bid Preparation • Bid Evaluation and Contract Award • Lender's Due Diligence • Sponsor's Pre-Construction Activities • Mobilization Construction • Project Close-Out • Operation and Maintenance • Handing Over

Readership: Students of Development Finance lectures in the MSc (Project Management) program, and researchers, public officials, project sponsors, lenders, developers, contractors, subcontractors, suppliers, investors, infrastructure fund managers, insurers, facilities managers, ngos, and consultants such as designers, engineers, environmental specialists, legal advisors, and brokers dealing with infrastructure projects.



Microstrip Patch Antennas, 2nd Edition
By Kai Fong Lee, Kwai Man Luk & Hau Wah Lai
ISBN 9798886131369 • PB • 688pp
Original Price US$138
Indian Edition at Rs 2395 • Year 2025

Microstrip patch antennas have become the favorite of antenna designers because of their versatility and having the advantages of planar profile, ease of fabrication, compatibility with integrated circuit technology, and conformability with a shaped surface. There is a need for graduate students and practicing engineers to gain an in depth understanding of this subject. The first edition of this book, published in 2011, was written with this purpose in mind. This second edition contains approximately one third new materials. The authors, Prof KF Lee, Prof KM Luk and Dr HW Lai, have all made significant contributions in the field. Prof Lee and Prof Luk are IEEE Fellows. Prof Lee was the recipient of the 2009 John Kraus Antenna Award of the IEEE Antennas and Propagation Society while Prof. Luk receives the same award in 2017, both in recognition of their contributions to wideband microstrip antennas.

Contents
Introduction • Review of Some Background Materials • General Formulation of the Cavity Model • Characteristics of the Rectangular Patch Antenna • Characteristics of the Circular Patch Antenna • The Annular-Ring Patch and the Equitriangular Patch • Introduction to Full Wave Analysis • Microstrip Patch Antennas with Adjustable Air Gaps • Broadbanding Techniques I — General Principles, Probe Compensation, Coplanar Parasitic Patches, Stacked Parasitic Patches • Broadbanding Techniques II — The U-Slot Patch Antenna • Broadbanding Techniques III — The L-Probe Coupled Patch and the Meandering-Probe Fed Patch • Broadbanding Techniques IV — Aperture Coupled Patches • Size Reduction Techniques • Dual- and Multi-Band Designs • Dual Polarized Patch Antenna Designs • Circular Polarization • Reconfigurable Microstrip Patch Antennas • Microstrip Antenna Array I — Basic Principles and Examples of Design Below 5 GHz • Microstrip Antenna Array II — Sixty (60) GHz Antenna Array Design and Applications • Novel Material Patch Antennas

Readership: Graduate students, academics and antenna designers in the industry.

Internet of Everything
Key Technologies, Practical Applications and Security of IoT
By Hang Song
ISBN 9781944660826 • PB • 840pp
Original Price US$268
Indian Edition at Rs 2395 • Year 2023

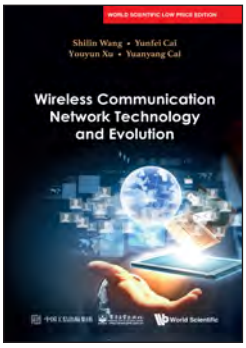
This book provides comprehensive coverage on the concepts, frameworks, and underpinning technologies in most aspects of the Internet of Things (IoT), and presents them as the foundation on which more advanced topics, such as 5G and mMTC/M2M, Edge/cloud computing and the modalities of Tactile IoT, Industrial IoT (IIoT)/Industry 4.0, Satellite IoT, and Digital Twins (DT), could be built upon.

A key feature of the book is the chapter that focuses on security and privacy for individuals and IoT/ Industry 4.0 are discussed.

This book is a good reference guide for researchers, developers, integrators and stakeholders working on research in or development of IoT, particularly where open-source software are deployed.

Contents
What is IoT on Earth
Development of Internet of Things
Characteristics of Internet of Things
Perceptual Technologies Layer of IoT
Communication Technologies Layer of IoT
Services and Platform Layer of IoT
Application Layer of IoT
IoT Security
Conclusions and Expectations

Readership: The book focuses on bringing all IoT related technologies together, so that students, researchers, and practitioners could use this book as a reference guide in the course of their studies and product development process.



Wireless Communication Network Technology and Evolution
By Shilin Wang, Yunfei Cai, *et al.*
ISBN 9781944660260 • PB • 648pp
Original Price US$168
Indian Edition at Rs 1895 • Year 2022

This book provides a panoramic overview on wireless communication network technologies and its evolution, namely cellular mobile networks (especially 5G), Wireless Local Area Network (WLAN) and Narrow Band Internet of Things (NB-IoT).

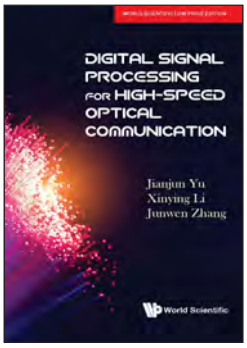
With rich experiences in teaching and scientific research, the renowned authors selectively analyze several key technologies that restrict the performance of wireless communication and computer networks.

For easy reading, each chapter is illustrated in somewhat the style of lesson plan.

The useful reference text will benefit both undergraduate and graduate students in the fields of wireless communication, computer networks, electronic engineering, automatic control, etc.

Contents
- Foreword by Pin Zhang
- Foreword by Qihui Wu
- Preface
- Acknowledgments
- About the Authors
- Mobile Communication Basics
- Evolution from 1G to 4G
- Evolution of Wireless Local Area Network
- Evolution of the Internet of Things
- 5G Overview
- Main Key Technologies in 5G
- The Situation and Development of 5G and Future 6G
- Abbreviation
- Appendix
- References
- Index

Readership: Researchers, professionals, academics and graduate students in communications, electronic engineering, and automatic control.

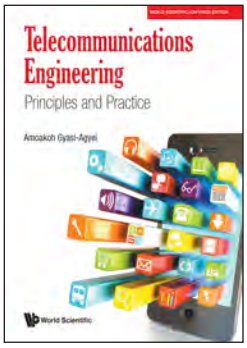


Digital Signal Processing for High-Speed Optical Communication
By Jianjun Yu, Xinying Li & Junwen Zhang
ISBN 9780000988584 • PB • 276pp
Original Price US$78
Indian Edition at Rs 1195 • Year 2020

There is an increasing tendency to integrate optical communication with wireless communication to satisfy continuously emerging (new) data communication demands. Thus, optical-wireless-integrated access networks and transmission systems, as well as LED-based visible light communication are attracting ever increasing research interest. Digital signal processing (DSP) is one new technology for optical transmission. As such this book is designed to pave the way to the better understanding of the deployment of DSP in optical fiber communication systems.

Digital Signal Processing for High-Speed Optical Communication covers a wide area of DSP topics in optical communications, and describes state-of-the-art digital signal processing techniques for high-speed optical communication. In this book, numerous advanced digital signal processing techniques aiming at the promotion of the capacity increase and performance improvement of optical or optical-wireless communication systems and networks are presented and explained. Coverage includes new technologies, optical filter with MLSE, and new pre-coding and pre-equalization applicable to single-carrier and multi-carrier, direct-detection and coherent-detection optical commutation systems and networks.

Contents
Digital Signal Processing for Optical Coherent Long-Haul Transmission System • Advanced DSP for Super-Nyquist Transmission System • Advanced DSP for Short-Haul and Access Network • DSP for Direct-Detection OFDM System • Digital Signal Processing for Dual/Quad Subcarrier OFDM Coherent Detection • DSP for MIMO OFDM Signal • DSP Implementation in OFDM Signal Systems • Advanced DSP for Free-Space Optical Communication • DSP Precoding for Photonic Vector Signal Generation



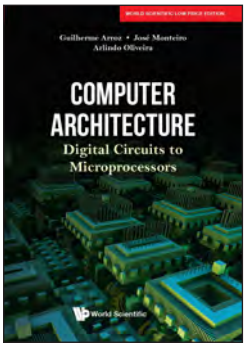
Telecommunications Engineering
Principles and Practice
By Amoakoh Gyasi-Agyei
ISBN 9780000989109 • PB • 760pp
Original Price US$98
Indian Edition at Rs 2550 • Year 2020

This book covers basic principles of telecommunications and their applications in the design and analysis of modern networks and systems. Aimed to make telecommunications engineering easily accessible to students, this book contains numerous worked examples, case studies and review questions at the end of each section. To render the book more hands-on, MATLAB® software package is used to explain some of the concepts. Parts of this book are taught in undergraduate curriculum, while the rest is taught in graduate courses.

Telecommunications Engineering: Theory and Practice treats both traditional and modern topics, such as blockchain, OFDM, OFDMA, SC-FDMA, LPDC codes, arithmetic coding, polar codes and non-orthogonal multiple access (NOMA).

Contents
Introduction to Telecommunications: Introduction • Telecommunications Fundamentals
Information Theoretic Aspects of Telecommunications: Analog Signal Digitisation & Reconstruction • Source Coding for Data Compression • Channel Coding for Error Control: Part I & Part II • Cryptography for Communications Security and Privacy
Telecommunications Signal Transmission: Modulation and Demodulation Methods • Multiplexing and Multiple Access Methods • Baseband Data Transmission and Reception
Telecommunications Systems Design: Telecommunications Reliability Engineering • Telecommunications Engineering Economics • Telecommunications Traffic Engineering • Mathematics in Telecommunications

Readership: This textbook is mainly intended for undergraduate-level and Master-level courses in telecom systems engineering & digital communications. It is also useful as reference to researchers and industry practitioners as many of the modern algorithms and protocols adopted in today's communication engineering are discussed.



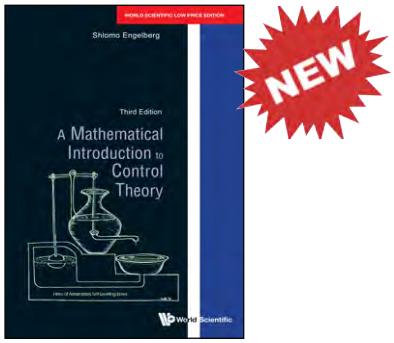
Computer Architecture
Digital Circuits to Microprocessors
By Guilherme Arroz, *et al.*
ISBN 9780000988522 • PB • 752pp
Original Price US$88
Indian Edition at Rs 2450 • Year 2020

An introductory text to computer architecture, this comprehensive volume covers the concepts from logic gates to advanced computer architecture. It comes with a full spectrum of exercises and web-downloadable support materials, including assembler and simulator, which can be used in the context of different courses. The authors also make available a hardware description, which can be used in labs and assignments, for hands-on experimentation with an actual, simple processor.

This unique compendium is a useful reference for undergraduates, graduates and professionals majoring in computer engineering, circuits and systems, software engineering, biomedical engineering and aerospace engineering.

Contents
Preface • Digital Representation of Information • Logic Functions • Physical Implementation of Logic Circuits • Combinational Modules of Medium Complexity • Arithmetic Circuits • Basic Sequential Circuits • Analysis & Design of Sequential Circuits • Register Transfers & Datapaths • Computer Architecture • Instruction Set Architectures • Programming in Assembly Language • Internal Structure of a Processor • Memory Systems • Inputs, Outputs and Communications • Advanced Computer Architecture Topics

Readership: Professionals, researchers, academics, undergraduate and graduate students in computer engineering, circuits & systems, software engineering, biomedical engineering and aerospace engineering.



A Mathematical Introduction to Control Theory, 3rd Edition
By Shlomo Engelberg
ISBN 9798886131772 • PB • 484pp
Original Price US$108
Indian Edition at Rs 1495 • Year 2026

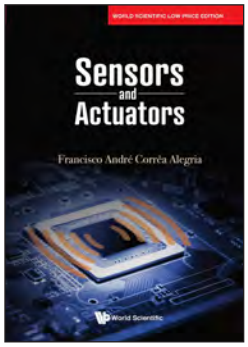
The 3rd edition strikes a nice balance between mathematical rigor and engineering oriented applications, helping students to understand the mathematical and engineering aspects of control theory.

The book makes effective use of the tools provided by MATLAB® (and includes material about using the tools provided by the Python® programming language) in the design and analysis of control systems without allowing the computer-based tools to substitute for knowledge of control theory. The examples in the text are carefully designed to develop the student's intuition — in both mathematics and engineering.

With over 90 solved homework problems and about 200 figures, this invaluable title will benefit junior and senior level university students in engineering.

Contents
- Mathematical Preliminaries
- Transfer Functions
- Feedback — An Introduction
- The Routh–Hurwitz Criterion
- The Principle of the Argument and Its Consequences
- The Root Locus Diagram
- Compensation
- Some Nonlinear Control Theory
- An Introduction to Modern Control
- Discrete-Time Modern Control and the Kalman Filter
- Answers to Selected Exercises

Readership: Professionals, academics, researchers and graduate students in electrical engineering, computer engineering, mechanical engineering and aeronautical engineering.



Sensors and Actuators
By Francisco André Corrêa Alegria
ISBN 9780000991799 • PB • 404pp
Original Price US$138
Indian Edition at Rs 1495 • Year 2024

This introductory compendium teaches engineering students how the most common electronic sensors and actuators work. It distinguishes from other books by including the physical and chemical phenomena used as well as the features and specifications of many sensors and actuators.

The useful reference text also contains an introductory chapter that deals with their specifications and classification, a chapter about sensor and actuator networks, and a special topic dealing with the fabrication of sensors and actuators using microelectromechanical systems techniques (sensors and actuators on a chip). A set of exercises and six laboratory projects are highlighted.

Contents
- Preface
- Introduction
- Micro and Nanotechnology
- Devices Based on the Electric Field
- Devices Based on Electrical Resistance
- Devices Based on the Magnetic Field
- Devices Based on Mechanical Phenomena
- Devices Based on Thermal Phenomena
- Devices Based on Electromagnetic Radiation
- Devices Based on Chemical Phenomena
- Sensor and Actuator Networks
- Summary
- Laboratory Guides
- References
- Index

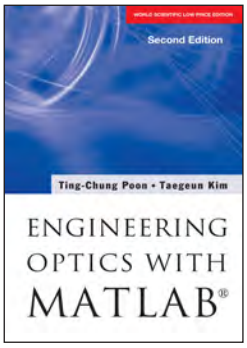
Readership: Researchers, professionals, academics and graduate students in electrical & electronic engineering, circuits and systems, and general engineering

Digital Electronic Circuits
The Comprehensive View
By Alexander Axelevitch
ISBN 9780000988577 • PB • 300pp
Original Price US$98
Indian Edition at Rs 1195 • Year 2020

This book deals with key aspects of design of digital electronic circuits for different families of elementary electronic devices. Implementation of both simple and complex logic circuits are considered in detail, with special attention paid to the design of digital systems based on complementary metal–oxide–semiconductor (CMOS) and Pass-Transistor Logic (PTL) technologies acceptable for use in planar microelectronics technology. It is written for students in electronics and microelectronics, with exercises and solutions provided.

Contents
- Basic Definitions and Logic Families
- Logic Families Based on the Bipolar Devices
- Logic Families Based on the Unipolar Devices
- Analysis and Synthesis of Digital Logic Circuits
- Semiconductor Memory Architecture
- Solutions

Readership: This book is mainly intended for students as it explores examination problems on digital circuits. Professional engineers engaged in the design and realization of microelectronic circuits and devices may also be interested in this text.

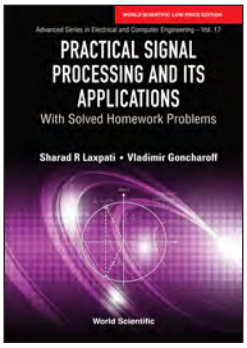


Engineering Optics with MATLAB®, 2nd Edition
By Ting-Chung Poon & Taegeun Kim
ISBN 9780000988591 • PB • 324pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2020

This invaluable second edition provides more in-depth discussions and examples in various chapters. Based largely on the authors' own in-class lectures as well as research in the area, the comprehensive textbook serves two purposes. The first introduces some traditional topics such as matrix formalism of geometrical optics, wave propagation and diffraction, and some fundamental background on Fourier optics. The second presents the essentials of acousto-optics and electro-optics, and provides the students with experience in modeling the theory and applications using a commonly used software tool MATLAB®.

Contents
- Geometrical Optics
- Wave Propagation and Wave Optics
- Beam Propagation in Inhomogeneous Media and in Kerr Media
- Acousto-Optics
- Electro-Optics

Readership: First-year/senior graudate students in engineering and physics: scientists and engineers keen in the basics of acousto-optics and electro-optics.



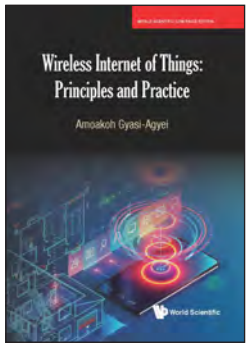
Practical Signal Processing and Its Applications
With Solved Homework Problems
By Sharad R Laxpati & Vladimir Goncharoff
ISBN 9780000988980 • PB • 660pp
Original Price US$138
Indian Edition at Rs 1595 • Year 2020

This textbook gives a fresh approach to an introductory course in signal processing. Its unique feature is to alternate chapters on continuous-time (analog) and discrete-time (digital) signal processing concepts in a parallel and synchronized manner. This presentation style helps readers to realize and understand the close relationships between continuous and discrete time signal processing, and lays a solid foundation for the study of practical applications such as the analysis and design of analog and digital filters.

The compendium provides motivation and necessary mathematical rigor. It generalizes the Fourier transform to Laplace and Z transforms, applies these transforms to linear system analysis, covers the time and frequency-domain analysis of differential and difference equations, and presents practical applications of these techniques to convince readers of their usefulness. MATLAB® examples are provided throughout, and over 100 pages of solved homework problems are included in the appendix.

Contents
Introduction to Signal Processing • Discrete-Time Signals and Operations • Continuous-Time Signals and Operations • Frequency Analysis of Discrete-Time Signals • Frequency Analysis of Continuous-Time Signals • Sampling Theory and Practice • Frequency Analysis of Discrete-Time Systems • Frequency Analysis of Continuous-Time Systems • Z-Domain Signal Processing • S-Domain Signal Processing • Applications of Z-Domain Signal Processing • Applications of S-Domain Signal Processing • Appendix: Solved Homework Problems

Readership: Researchers, academics, professionals and undergraduate students in signal processing.

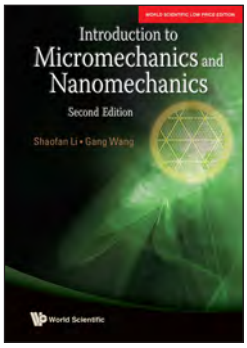


Wireless Internet of Things
Principles and Practice
By Amoakoh Gyasi-Agyei
ISBN 9780000989208 • PB • 716pp
Original Price US$88
Indian Edition at Rs 2695 • Year 2020

This textbook metamorphosed from notes that the author has been using to teach at four universities in Australia and New Zealand. The book treats the physical principles and design of wireless Internet of Things (IoT) systems from engineering perspective. IoT enables communication between people, between people and things, and between things. The book highlights the wide scope of sensors used in IoT - including RFIDs, smart mobile phones, home consumer devices, autonomous cars, utility meters, car park meters, robots, satellites, radars and wireless positioning systems. Three features render the book practically accessible. First, each chapter is organised in sections, each of which ends with a set of authentic review questions to motivate reflection. This is complemented by numerous worked examples in each section. Third, the book introduces two popular industry software packages for hands-on practice — MATLAB® and CelPlanner™. With the growing popularity of softwarisation and cloudification, possessing expertise in these packages makes one useful to the industry.

Contents
Introduction to Internet of Things • Wireless IoT Fundamentals • Analog Modulation & Demodulation Methods • Digital Modulation & Demodulation Methods • Electromagnetic Wave Propagation • Wireless Channels • Antennas and Spatial Diversities • Multiplexing and Multiple Access Methods • Principles of Cellular Mobile Systems Design • Point-to-Point Microwave System Design • Radar Systems Fundamentals • Satellite Communications • Wireless Positioning Fundamentals

Readership: This textbook is suited for undergraduate-level and Master-level courses in several courses, such as wireless IoT, mobile communications system design, wireless communications, telecom systems engineering, and digital communications. It is also useful as reference to researchers and industry practitioners in related disciplines.



Introduction to Micromechanics and Nanomechanics, 2nd Edition
By Shaofan Li & Gang Wang
ISBN 9780000988799 • PB • 660pp
Original Price US$64
Indian Edition at Rs 2195 • Year 2020

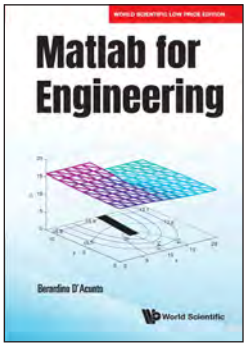
This book presents a systematic treatise on micromechanics and nanomechanics, which encompasses many important research and development areas such as composite materials and homogenizations, mechanics of quantum dots, multiscale analysis and mechanics, defect mechanics of solids including fracture and dislocation mechanics, etc.

In this second edition, some previous chapters are revised, and some new chapters added — crystal plasticity, multiscale crystal defect dynamics, quantum force and stress, micromechanics of metamaterials, and micromorphic theory.

The book serves primarily as a graduate textbook and intended as a reference book for the next generation of scientists and engineers. It also has a unique pedagogical style that is specially suitable for self-study and self-learning for many researchers and professionals who do not have time attending classes and lectures.

Contents
Introduction • Green's Function and Fourier Transform • Micromechanical Homogenization Theory • Effective Elastic Modulus • Variational Principles and Computational Homogenization • Eshelby Tensors in a Finite Volume and Their Applications • Micromechanics-Based Damage Theory • Introduction of Dislocation Theory • Configurational Mechanics of Defects • Nanomechanics: Small-Scale Coarse-Grained Models • Periodic Microstructure and Asymptotic Homogenization • Introduction to Crystal Plasticity

Readership: Researchers and educators in academics, and graduate students in engineering mechanics, nanomechanics, nanomaterials and nanostructure and mechanical engineering.



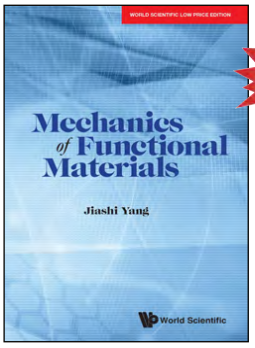
Matlab for Engineering
By Berardino D'Acunto
ISBN 9780000991782 • PB • 328pp
Original Price US$78
Indian Edition at Rs 1795 • Year 2024

This book presents an introduction to Matlab for students and professionals working in the field of engineering and other scientific and technical sectors, who have an interest or need to apply Matlab as a tool for undertaking simulations and formulating solutions for the problems concerned.

The presentation is highly accessible, employing a step-by-step approach in discussing selected problems: deduction of the mathematical model from the physical phenomenon, followed by analysis of the solutions with Matlab. Since a physical phenomenon takes place in space and time, the corresponding mathematical model involves partial differential equations. For this reason, the book is dedicated to numerically solving these equations with the Finite Element Method and Finite Difference Method. Throughout, the text presents numerous examples and exercises with detailed worked solutions. *Matlab for Engineering* is a useful desktop reference for undergraduates and scientists alike in real world problem solving.

Contents
- Preface
- Function Files
- The Finite Difference Method
- Diffusion and Convection
- Introduction to the Finite Element Method
- Introduction to the Finite Element Method in Two Spatial Dimensions
- The Euler–Bernoulli Beam
- Bibliography
- Index

Readership: Students of university courses on Computational Methods and Applied Mathematics for Engineering students, and Mathematics, Physics, and Chemistry students. Also ideal for industry technicians and professionals interested in learning how to use Matlab.



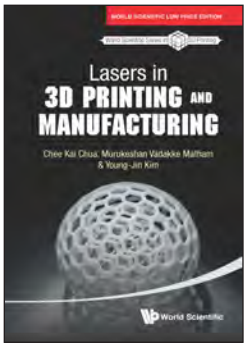
Mechanics of Functional Materials
By Jiashi Yang
ISBN 9798886131901 • PB • 240pp
Original Price US$88
Indian Edition at Rs 1295 • Year 2026

Conventional books on the mechanics of materials treat elastic deformations of solids through one-dimensional models for the extension of rods, torsion of shafts and bending of beams. In functional materials, mechanical, thermal, electric and magnetic fields interact among themselves, and therefore, need a more comprehensive model.

This book presents a systematic treatment of the three-dimensional theories for these coupled phenomena and the corresponding one-dimensional models for extension, torsion and bending. This book adopts a mixed approach by devoting the first half of the book to the development of the three-dimensional theories of elastic, thermal, electric and magnetic fields as well as their interactions in dielectrics, conductors and semiconductors. The remainder of the book presents the one-dimensional models for extension, torsion and bending systematically.

Contents:
- Mechanics of Materials and Elasticity
- Heat Conduction and Thermoelasticity
- Electricity and Magnetism
- Piezoelectric and Piezomagnetic Effects
- Extension of Rods
- Torsion of Shafts
- Bending of Beams

Readership: University professors and graduate students, and research and development engineers in civil, mechanical and electrical engineering.



Lasers in 3D Printing and Manufacturing
By Chee Kai Chua, Murukeshan Vadakke Matham & Young-Jin Kim
ISBN 9798886131291 • PB • 280pp
Original Price US$58
Indian Edition at Rs 1495 • Year 2025

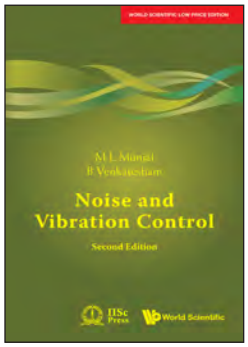
Additive Manufacturing (AM), popularly known as 3D printing, is playing an increasingly significant role in the manufacturing arena. AM has revolutionized how prototypes are to be made and small batch manufacturing should be carried out. Due to high flexibility and high efficiency of lasers, laser-assisted Manufacturing (LAM) and AM technologies are recently getting much attention over traditional methods.

This textbook is a timely information resource for undergraduates, postgraduates and researchers who are interested in this emerging technology. The book will cover the basics of lasers, optics and materials used for manufacturing and 3D printing. It will also include several case studies for readers to apply their understanding of the topics, provide sufficient theoretical background and insights to today's key laser-assisted AM processes and conclude with the future prospects of this exciting technology.

This is the first textbook tailored specifically for Lasers in 3D Printing and Manufacturing with detailed explanations. The book will focus on laser-assisted 3D printing and Additive Manufacturing (AM) from basic principles of lasers, optics and AM materials to advanced AM technologies, including in-depth discussion on critical aspects throughout the laser-assisted AM processes, such as optical system design, laser-material interaction and laser parameters' optimization.

Contents:
Introduction • Lasers and Basic Optics for 3D Printing and Manufacturing • Materials for Laser-based 3D Printing and Manufacturing • One-, Two-, and Three-Dimensional Laser-Assisted Manufacturing • Laser-based 3D Printing • Advanced 3D Manufacturing: Micro and Nanoscale Patterning • Laser Safety and Hazards • Future Prospects

Readership: Students, professionals, and research staff working on 3D printing.



Noise and Vibration Control, 2nd Edition
by M L Munjal and B Venkatesham
ISBN 9798886131260 • PB • 440pp
Original Price US$138
Indian Edition at Rs 1795 • Year 2025

This unique compendium stresses on physical concepts and the applications to practical problems. The authors' decades of experience in teaching, research and industrial consultancy are reflected in the choice of the solved examples and unsolved problems.

The second edition has three additional chapters containing topics of vibration and acoustic sensors and instruments, finite element method (FEM), boundary element method (BEM) and statistical energy analysis (SEA), etc, thus enabling students to solve real-life problems in industrial and automotive noise control.

The useful reference text targets senior undergraduate mechanical and environmental engineering students as well as designers of industrial machinery and layouts. The book can readily be used for self-study by practicing designers and engineers. Mathematical derivations are avoided and illustrations, tables and empirical formulae are included for ready reference.

Contents
- Introduction to Acoustics
- Acoustic Measurements
- Vibration and Its Measurement
- Vibration Control
- Sound Transmission Through Multiple Media
- Acoustics of Rooms, Partitions, Enclosures and Barriers
- Mufflers and Silencers
- Noise Control Strategies
- Computational Acoustics

Readership: Researchers, professionals, academics, and senior graduate students in mechanical engineering and environmental engineering.

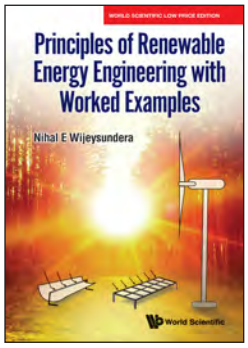
Quality Management Essentials
By Ivan Popov
ISBN 9798886131079 • PB • 216pp
Original Price US$78
Indian Edition at Rs 1495 • Year 2024

A product's design is based on what customers want and how much they are willing to pay for it determines its quality. The production process is supposed to achieve the required quality. Due to the natural process variation the quality of a product or service varies. Thus, quality can be defined as fitness for intended use or, in other words, how well the product performs its intended function. It is a written or unwritten commitment to a known or unknown consumer in the market. Quality management ensures that a product or service is fit for its purpose. It has three main components: quality planning, quality control and quality improvement. Quality management is focused not only on product and service quality, but also on the means to maintain it. Quality management, therefore, uses quality control tools to achieve more consistent quality.

This book aims to provide the readers with the essential practical knowledge and understanding of quality-related issues to make correct decisions faster. Hence, they can effectively contribute to a modern dynamic production environment. The book covers the essential tools used in quality control and quality management. There are a lot of practical questions and answers on quality.

Contents
- Introduction to Quality Management
- Measurements for Quality Assurance
- Process Variation and Probability Distributions Used in Quality Management
- Sampling
- Process Capability
- Control Charts
- Other Tools for Quality Management and Optimisation
- Six-Sigma Quality
- Acceptance Sampling
- Standardisation, Certification and Quality Management Systems

Readership: Mechanical and manufacturing undergraduate and postgraduate students; engineers; A-level students taking Tech concepts.



Principles of Renewable Energy Engineering with Worked Examples
By Nihal E. Wijeysundera
ISBN 9798886130560 • PB • 628pp
Original Price US$168
Indian Edition at Rs 1895 • Year 2024

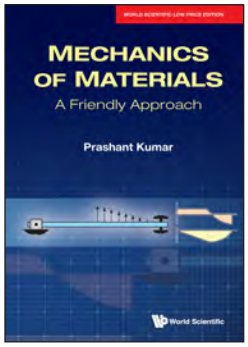
In this volume, engineering principles of renewable energy are presented as extensions of the various subjects covered in regular engineering courses. Topics include solar thermal and solar PV power, wind power, energy storage, tidal power, wave power, and ocean thermal energy, and hydroelectric, geothermal and biomass systems.

The comprehensive textbook brings the principles of renewable energy engineering together in a single book equivalent to that of a standard engineering title.

A novel feature of this unique reference is the 30 worked examples and problems highlighted at the end of each chapter. Numerical answers are provided for all the problems. Readers should be able to avoid the need to refer to several books on individual energy sources to develop a course on renewable energy.

Contents
- Introduction to Energy Sources and Utilization
- The Solar Resource
- Solar Process Heat Production
- Solar Thermal Power Generation
- Solar Photovoltaic Power Generation
- Wind Power Generation
- Energy Storage Systems
- Ocean Energy Conversion Systems
- Hydropower and Geothermal Power
- Energy from Biomass
- Appendix A1: Transmission and Absorption of Solar Radiation
- Appendix A2: Heat Transfer Correlations

Readership: Professionals, academics, researchers, undergraduate and graduate students in mechanical engineering, chemical engineering, civil engineering and energy studies.



Mechanics of Materials
A Friendly Approach
By Prashant Kumar
ISBN 9798886130645 • PB • 544pp
Original Price US$138
Indian Edition at Rs 1895 • Year 2024

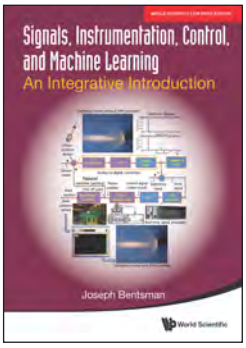
The knowledge of mechanics of materials is the very foundation for advanced topics in mechanical, civil, aerospace, chemical, ceramic engineering and materials science.

This comprehensive book presents materials with a three-dimensional approach rather than two-dimensional analysis adopted by existing books. It develops the required background thoroughly before basic elements such as stress and strain tensors are formulated. The presentation is richly filled with anecdotes, illustrations and solved examples. Special care has been taken to carry out algebra and the derivations in small digestible steps.

This useful reference text largely meets the requirements of computer-aided engineering (CAE) softwares which are widely used in industrial-sector and research & development laboratories to design structural members.

Contents
- Getting into a New Ball Game
- Forces, Moments, and Equilibrium
- Reactions and Free Body Diagrams
- Internal Forces in Slender Members
- Stress Tensor
- Transformation of Stress Components
- Deformation and Strain Tensor
- Material Behavior: Stress–Strain Relations
- Axial Members: Stresses, Thermal Strains, and Compatibility
- Bending Moments and Shear Forces
- Deflection due to Bending
- Torsion
- Combined Stresses and Yield Criteria
- Energy Methods
- Historical Perspective

Readership: Researchers, professionals, academics, undergraduate and graduate students in mechanical engineering, civil engineering, aerospace engineering, materials science and chemical engineering.



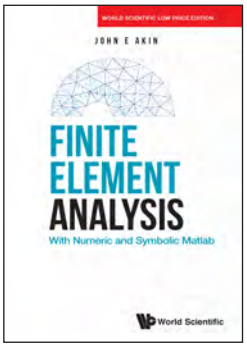
Signals, Instrumentation, Control, and Machine Learning
An Integrative Introduction
By Joseph Bentsman
ISBN 9798886130638 • PB • 844pp
Original Price US$98
Indian Edition at Rs 3099 • Year 2024

This book stems from a unique and a highly effective approach to introducing signal processing, instrumentation, diagnostics, filtering, control, system integration, and machine learning. It presents the interactive industrial grade software testbed of mold oscillator that captures the distortion induced by beam resonance and uses this testbed as a virtual lab to generate input-output data records that permit unravelling complex system behavior, enhancing signal processing, modeling, and simulation background, and testing controller designs.

All topics are presented in a visually rich and mathematically well supported, but not analytically overburdened format. The presentation is extensively class-tested and refined though the six-year usage of the book material in a required engineering course at the University of Illinois at Urbana-Champaign.

Contents
- Case Study and Course Overview
- Introduction to Signals
- First Look at Signal Processing, Filtering, and Instrumentation
- Sampling Basics, Harmonic Signals, and Signal Spectrum
- Function Projection and Fourier Series
- Linear System Characteristics, Fourier Transform and Introduction to Filters
- CT, DT & Digital Filter Design & Implementation
- Introduction to Discrete-Continuous Spectral Analysis
- Introduction to Control Systems: Basic Control Actions and Controller Design
- Introduction to Nonstationary Signal Analysis and Machine Learning

Readership: Researchers, professionals, academics, undergraduate and graduate students in mechanical engineering, electrical & electronic engineering, systems engineering and industrial engineering.



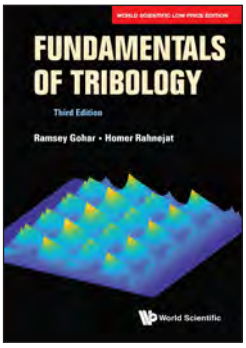
Finite Element Analysis
With Numeric and Symbolic Matlab
By John E Akin
ISBN 9798886131017 • PB • 664pp
Original Price US$88
Indian Edition at Rs 1995 • Year 2024

This comprehensive compendium presents the detailed theory, implementation and application of finite element analysis via heavily commented Matlab scripts. The book includes over 110 examples of the methods, and has a very detailed subject index. It uniquely illustrates the use of symbolic Matlab capabilities to derive element interpolation functions and to analytically integrated complicated element matrices.

The useful volume text is suitable as a reference on finite element methods and efficient Matlab programming. Chapters prominently end with a detailed summary of the important features and tables of useful finite element matrices. It can be used as the textbook for introductory, intermediate, or advanced courses utilizing numerically integrated and curvilinear element.

Contents
- Overview
- Calculus Review
- Terminology from Differential Equations
- Parametric Interpolation
- Numerical Integration
- Equivalent Integral Forms
- Matrix Procedures for Finite Elements
- Applications of One-Dimensional Lagrange Elements
- Truss Analysis
- Applications of One-Dimensional Hermite Elements
- Frame Analysis
- Scalar Fields and Thermal Analysis
- Elasticity
- Eigenanalysis
- Transient and Dynamic Solutions

Readership: Researchers, professionals, academics, undergraduate and graduate students in mechanical engineering, aerospace engineering, civil engineering and numerical analysis.



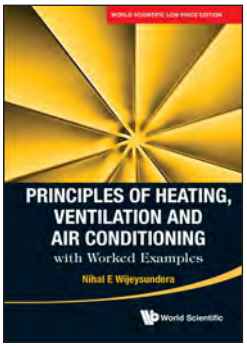
Fundamentals of Tribology, 3rd Edition
By Ramsey Gohar & Homer Rahnejat
ISBN 9798886130096 • PB • 520pp
Original Price US$128
Indian Edition at Rs 1695 • Year 2024

Fundamentals of Tribology deals with the fundamentals of lubrication, friction and wear, as well as mechanics of contacting surfaces and their topography. It describes the nature of rough surfaces and the mechanics of contacting elastic solids and their deformation under load and friction in their relative motion, & the importance of lubricant rheology with respect to viscosity and density, the principles of hydrodynamic lubrication, applications of hydrodynamic lubrication in various forms of bearings — journal bearings, thrust bearings and externally pressurised bearings — are outlined.

The fundamentals of biotribology, & emerging knowledge of tribological phenomena in lightly loaded vanishing conjunctions (nanotribology), in natural systems and very small devices are also covered. There is also a new chapter on the rapidly emerging subject of surface texturing to promote retention of microreservoirs of lubricant, acting as microbearings and improving lubrication of otherwise poorly lubricated conjunctions.

Contents
- Introduction to Tribology
- The Nature of Rough Surfaces
- Elastic Solids in Normal Contact
- Dry Friction and Wear
- Lubricant Properties
- The Reynolds and Energy Equations
- Thrust Bearings
- Journal Bearings
- Externally Pressurised (EP) Bearings
- Elastohydrodynamic Lubrication (EHL)
- Fatigue Life of Rolling Element Bearings
- Transient Elastohydrodynamic Lubrication
- Nanotribology
- Biotribology
- Surface Texturing for Enhanced Tribological Performance

Readership: Students in an undergraduate and Postgraduate course in Mechanical, Chemical or Automotive Engineering or Material Science in later years of their courses.



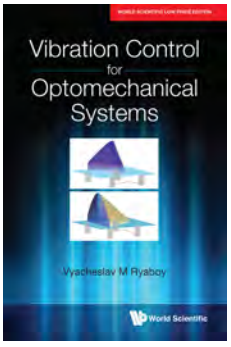
Principles of Heating, Ventilation and Air Conditioning with Worked Examples
By Nihal E Wijeysundera
ISBN 9780000991829 • PB • 716pp
Original Price US$258
Indian Edition at Rs 1995 • Year 2024

This book presents the most current design procedures in heating, ventilation and air conditioning (HVAC), available in handbooks, like the *ASHRAE* (*American Society of Heating, Refrigeration and Air Conditioning Engineers*) *Handbook-2013 Fundamentals*, in a way that is easier for students to understand. Every effort is made to explain in detail the fundamental physical principles that form the basis of the various design procedures.

A novel feature of the book is the inclusion of about 15 worked examples in each chapter, carefully chosen to highlight the diverse aspects of HVAC design. The solutions for the worked examples clarify the physical principles behind the design method. In addition, there are problems at the end of each chapter for which numerical answers are provided. The book includes a series of MATLAB programs that may be used to solve realistic HVAC design problems, which in general, require extensive and repetitive calculations.

Contents
Introduction to Heating, Ventilation and Air Conditioning • Heat Transfer Principles • Refrigeration Cycles for Air Conditioning Applications • Psychrometric Principles • Psychrometric Processes for Heating and Air Conditioning • Direct-Contact Transfer Processes and Equipment • Heat Exchangers and Cooling Coils • Steady Heat and Moisture Transfer Processes in Buildings • Solar Radiation Transfer Through Building Envelopes • Cooling and Heating Load Calculations • Air Distribution Systems • Water Distribution Systems • Building Energy Estimating and Modeling Methods

Readership: Academics, practicing engineers, professionals, postgraduate and undergraduate students in mechanical engineering, building management, architecture, civil engineering and energy studies.



Vibration Control for Optomechanical Systems
By Vyacheslav M Ryaboy
ISBN 9781944660208 • PB • 280pp
Original Price US$88
Indian Edition at Rs 1695 • Year 2022

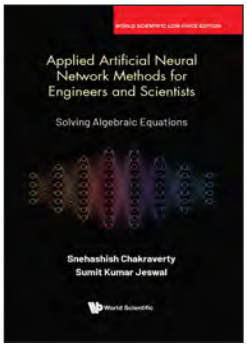
Vibration presents a major challenge to advanced experiments and technological processes in engineering, physics and life sciences that rely on optics and optoelectronics. This compendium discusses ways in which vibration may affect optical performance and describes methods and means of reducing this impact. Principle methods of vibration control, namely, damping and isolation are highlighted using mathematical models and real-life examples.

The unique text covers some topics that are important for optomechanical applications but are lacking in general vibration texts, such as dynamics and stability of elastically supported systems with high centers of gravity, physics of pneumatic isolators, and application of dynamic absorbers to vibration-isolated systems.

This useful reference book enables the reader to apply the vibration control tools properly and perform basic analytical and experimental tasks of estimating and verifying their performance. It is also a must-have textbook for undergraduate or graduate-level courses in vibration control and optomechanics.

Contents
Introduction • Sources and Effects of Vibration • Mathematical Methods of Vibration Studies • Basic Models of Mechanical Oscillatory Systems • Vibration Measurements • Vibration Sensitivity of Optical Instruments: Generic Criteria for Vibration Environments • Vibration Isolation • Vibration Damping • System Approach to Vibration Control: Optomechanical Case Studies and Troubleshooting • Active Vibration Control • Conclusion • Index

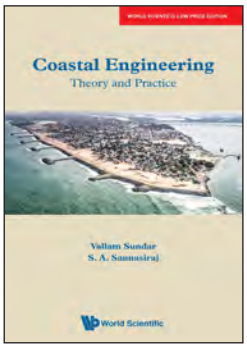
Readership: Professionals, academics, researchers, and graduate students in mechanical engineering, acoustics, optics, systems engineering and control.



Applied Artificial Neural Network Methods for Engineers and Scientists
Solving Algebraic Equations
By Snehashish Chakraverty and Sumit Kumar Jeswal
ISBN 9780000989970 • PB • 192pp
Original Price US$78
Indian Edition at Rs 1650 • Year 2021

The aim of this book is to handle different application problems of science and engineering using expert Artificial Neural Network (ANN). As such, the book starts with basics of ANN along with different mathematical preliminaries with respect to algebraic equations. Then it addresses ANN based methods for solving different algebraic equations viz. polynomial equations, diophantine equations, transcendental equations, system of linear and nonlinear equations, eigenvalue problems etc. which are the basic equations to handle the application problems mentioned in the content of the book. Although there exist various methods to handle these problems, but sometimes those may be problem dependent and may fail to give a converge solution with particular discretization. Accordingly, ANN based methods have been addressed here to solve these problems. Detail ANN architecture with step by step procedure and algorithm have been included. Different example problems are solved with respect to various application and mathematical problems. Convergence plots and/or convergence tables of the solutions are depicted to show the efficacy of these methods. It is worth mentioning that various application problems viz. Bakery problem, Power electronics applications, Pole placement, Electrical Network Analysis, Structural engineering problem etc. have been solved using the ANN based methods.

Contents
ANN Preliminaries • Mathematical Preliminaries • Polynomial Equations with Application in Solving Bakery Problem • Transcendental Equations in Power Electronics Applications • Diophantine Equations in Pole Placement • Systems of Linear Equations with Application in Static Structural Problems • Systems of Nonlinear Equations in Electrical Network Analysis • Eigenvalue Problems with Application in Structural Dynamics • Nonlinear Eigenvalue Problems with Application in Structural Dynamics • Definite Integrals in the Fluid Force on a Vertical Surface • Inverse Problems in Structural Dynamics



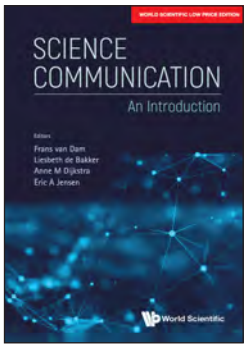
Coastal Engineering
Theory and Practice
By Vallam Sundar & S A Sannasiraj
ISBN 9780000990495 • PB • 364pp
Original Price US$128
Indian Edition at Rs 2050 • Year 2022

This book can potentially serve as a comprehensive textbook for students pursuing this subject either as degree or an elective course. It covers all the fundamental physics behind the different phenomena taking place in the near shore regions and the coast as well as the various methods to estimate its impact. Basic knowledge of water wave mechanics is crucial in understanding the coastal processes taking place in the near shore. The assessment of incident forces due to wind, wave, tide, current etc. is important to evaluate the resultant impact they cause on the shoreline and structures.

This book emphasizes the importance of sediment dynamics by analyzing the sediment characteristics, the physics of its motion and movement, factors responsible for the fate of sediments etc. It also highlights the erosion problem which is most prevalent across the sandy coasts, additionally erosion combating methods and techniques are also described with real time field problems and their solutions.
A wide range of coastal structures and their design principles are included in this book in order to give the reader a holistic understanding to the readers. This book also includes the design challenges and introduces the reliable modeling tools and techniques, which is very useful for beginners working in this discipline.

Contents
Introduction • Characteristics and Motion of Sediments • Sediment Transport • Coastal Erosion and Protection Measures Including Case Studies • Rubble Mound Structures • Wave Run-up and Overtopping • Scour Around Marine Structures • Design of Coastal Structures • Physical Modelling Numerical Modelling

Readership: Students and researchers in coastal and ocean engineering.

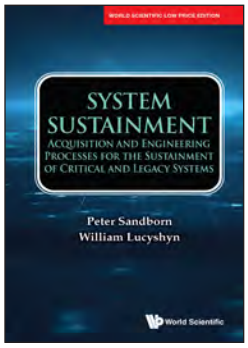


Science Communication
An Introduction
By Frans van Dam, *et al.*
ISBN 9781944660352 • PB • 276pp
Original Price US$28
Indian Edition at Rs 2095 • Year 2023

A concise, coherent and easily readable textbook about the field of science communication, connecting the practice of science communicators with theory. In the book, recent trends and shifts in the field resonate, such as the transition from telling about science to interacting with the public and the importance of science communication in health and environmental communication. The chapters have been written by experts in their disciplines, coming from philosophy of science and communication studies to health communication and science journalism. Cases from around the world illustrate science communication in practice. The book provides a broad, up-to-date and coherent introduction to science communication for both, students of science communication and related fields, as well as professionals.

Contents
- Foreword
- List of Contributing Authors
- Setting the Scene
- Views of Science
- The Process of Communicating Science
- Science in Dialogue
- Informal Science Education
- Science Journalism
- Risk Communication
- Health Communication
- Environmental Communication
- Research in Science Communication

Readership: Researchers and students from all fields who are interested in the basics of communicating science and technology.

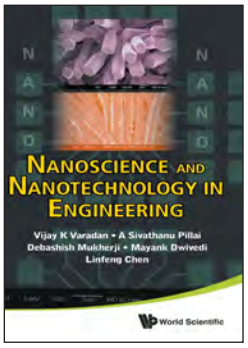


System Sustainment
Acquisition and Engineering Processes for the Sustainment of Critical and Legacy Systems
By Peter Sandborn & William Lucyshyn
ISBN 9798886130577 • PB • 388pp
Original Price US$128
Indian Edition at Rs 1550 • Year 2024

This book is a mix of engineering, operations research, and policy sciences intended to provide students with a thorough understanding of the concept of sustainability and sustainable product life-cycles, and an appreciation of the importance of sustaining critical systems. It starts from the key attributes for system sustainment that includes data analytics, engineering analysis and the public policy needed to support the development of technologies, processes, and frameworks required for the management of sustainable processes and practices. The specific topics covered include: acquisition of critical systems, reliability, maintenance, availability, readiness, inventory management, supply-chain management and risks, contracting for sustainment, and various analysis methodologies (discounted cash flow analysis, discrete-event simulation and Monte Carlo methods). Practice problems are included at the end of each chapter.

Contents
Introduction to Sustainment • The Acquisition of Critical Systems • System Failure • Maintenance — Managing System Failure • Availability and Readiness • Sustainment Inventory Management • Supply-Chain Management • System Sustainment Enablers • Contracting for Sustainment • Epilogue — The Future of System Sustainment

Readership: This book is intended to be a resource for advanced undergraduate and graduate students in engineering (aerospace, civil, electrical, mechanical, and engineering management), business, and public policy who want to understand the ramifications of, and processes for, system sustainment. It is also a useful reference for industry short courses provided to practicing professionals, whom in many cases, were not introduced to system sustainment during their education and are now thrust into the field with minimal preparation.

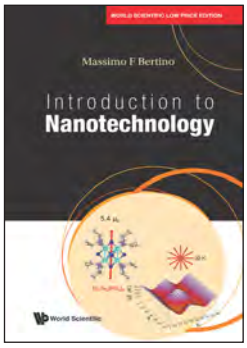


Nanoscience and Nanotechnology in Engineering
By Vijay K Varadan, *et al.*
ISBN 9789814277921 • PB • 324pp
Original Price US$68
Indian Edition at Rs 1695 • Year 2010

The usage of nanoscience and nanotechnology in engineering directly links academic research in nanoscience and nanotechnology to industries and daily life. As a result, numerous nanomaterials, nanodevices and nanosystems for various engineering purposes have been developed and used for human betterment. This book, which consists of eight self-contained chapters, provides the essential theoretical knowledge and important experimental techniques required for the research and development on nanoscience and nanotechnology in engineering, and deals with the five key topics in this area — *Nanoscience and Nanotechnology in Engineering* is based on the many lectures and courses presented around the world by its authors.

Contents
- Introduction
- Physical and Biological Aspects of Nanoscience and Nanotechnology
- Nanoscale Fabrication and Characterization
- Carbon Nanomaterials
- Nanostructured Materials
- Polymer Nanotechnology
- Nanocomposites
- Organic Electronics

Readership: Undergraduates, graduates and researchers in nanoscience and nanotechnology in engineering.

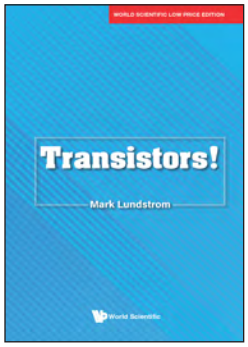


Introduction to Nanotechnology
By Massimo F Bertino
ISBN 9781944660444 • PB • 236pp
Original Price US$58
Indian Edition at Rs 3095 • Year 2023

This textbook is conceived for a one-semester course at the upper undergraduate or freshman graduate level. The book was written With the fact that nanotechnology is a vast field where the applications range from paint to nanomedicine, through plasmonics and catalysis. An introductory course must be a compromise between a quantitative and a qualitative treatment. For that, this textbook is more quantitative than others in the market, which often do not treat the key concepts with enough depth. This textbook focuses on the key physical and chemical principles and uses many formulas and equations within with the one-semester time constraint.

Contents
- "Trivial" Size Effects at the Nano-Scale
- Characterization Techniques
- At the Core of Nanotechnology: Clusters of Atoms
- Plasmonics
- Magnetism
- Catalysis
- Photonic Crystals
- Electrically Conducting Polymers and Their Applications

Readership: Academia; graduate students and advanced undergraduates in nanotechnology; photovoltaics; microfabrication as well as physics and materials science students with interest in nanotechnology.



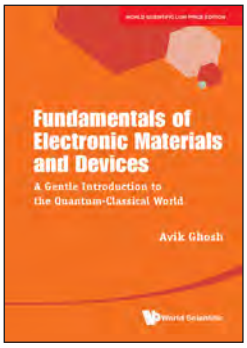
Transistors!
By Mark Lundstrom
ISBN 9798886131154 • PB • 280pp
Original Price US$58
Indian Edition at Rs 1795 • Year 2024

Current leading-edge CMOS transistors are about as small as they will get. We now have a simple, clear, very physical understanding of how these devices function, but it has not yet entered our textbooks. Besides, CMOS logic transistors, power transistors are increasingly important as are III-V heterostructure transistors for high-frequency communication. Transistor reliability is also important but rarely treated in introductory textbooks.

As we begin a new era, in which making transistors smaller will no longer be a major driving force for progress, it is time to look back at what we have learned in transistor research. Today we see a need to convey as simply and clearly as possible the essential physics of the device that makes modern electronics possible. That is the goal of these lectures. This volume rearranges the familiar topics and distills the most essential among them, while adding most recent approaches which have become crucial to the discussion. To follow the lectures, readers need only a basic understanding of semiconductor physics. Familiarity with transistors and electronic circuits is helpful, but not assumed.

Contents
- A First Look at Transistors
- Circuits and Device Metrics
- IV Theory: Energy Band Approach
- IV Theory: Traditional Approach
- Mobile Charge
- IV Theory: The Ballistic MOSFET
- IV Theory: Transmission Approach
- Bulk MOSFETs
- Power MOSFETs
- Transistors and Semiconductor Memory
- Heterostructure Transistors
- Transistor Reliability

Readership: Advanced undergraduates and graduates in electronic engineering, semiconductors, microelectronics and nanoelectronics, as well as professional engineers.



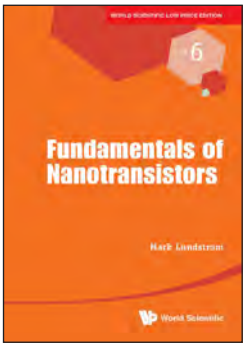
Fundamentals of Electronic Materials and Devices
A Gentle Introduction to the Quantum-Classical World
By Avik Ghosh
ISBN 9798886131000 • PB • 348pp
Original Price US$38
Indian Edition at Rs 1595 • Year 2024

In semiconductor device technology, where a working knowledge of solid state electronics is no longer enough. Faced with the prohibitive cost of computing and the slowdown of chip manufacturing, device scaling and the global supply chain, the semiconductor industry is forced to explore alternate platforms such as 2-D materials, spintronics, analog processing and quantum engineering.

This book combines top-down classical device physics with bottom-up quantum transport in a single venue to provide the basis for such a scientific exploration. It is essential, easy reading for beginning undergraduate and practicing graduate students, physicists unfamiliar with device engineering and engineers untrained in quantum physics. With just a modest pre-requisite of freshman maths, the book works quickly through key concepts in quantum physics, Matlab exercises and original homeworks, to cover a wide range of topics from chemical bonding to Hofstader butterflies, domain walls to Chern insulators, solar cells to photodiodes, FinFETs to Majorana fermions. For the practicing device engineer, it provides new concepts such as the quantum of resistance, while for the practicing quantum physicist, it provides new contexts such as the tunnel transistor.

Contents
Equilibrium Physics and Chemistry
Top–Down: Classical Transport
Bottom–Up: Quantum Transport

Readership: Advanced undergraduates, graduates, researchers, and industry professionals in the following fields: condensed matter physics, nanoelectronics, semiconductor devices, nanomaterials, materials science, device physics, digital electronics.



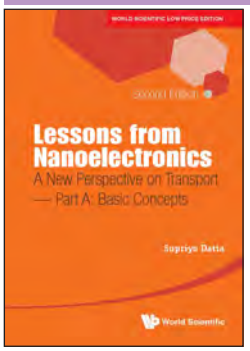
Fundamentals of Nanotransistors
By Mark Lundstrom
ISBN 9798886130157 • PB • 388pp
Original Price US$40
Indian Edition at Rs 1495 • Year 2024

The transistor is the key enabler of modern electronics. Progress in transistor scaling has pushed channel lengths to the nanometer regime where traditional approaches to device physics are less and less suitable. These lectures describe a way of understanding MOSFETs and other transistors that is much more suitable than traditional approaches when the critical dimensions are measured in nanometers. It uses a novel, "bottom-up approach" that agrees with traditional methods when devices are large, but that also works for nano-devices. Surprisingly, the final result looks much like the traditional, textbook, transistor models, but the parameters in the equations have simple, clear interpretations at the nanoscale.

Complemented with online lecture by Prof Lundstrom: nanoHUB-U Nanoscale Transistor.

Contents
MOSFET Fundamentals: Overview • The Transistor as a Black Box • The MOSFET: A Barrier-Controlled Device • MOSFET IV: Traditional Approach • MOSFET IV: The Virtual Source Model
MOS Electrostatics: Poisson Equation and the Depletion Approximation • Gate Voltage and Surface Potential • Mobile Charge: Bulk MOS • Mobile Charge: Extremely Thin SOI • 2D MOS Electrostatics • The VS Model Revisited
The Ballistic MOSFET: The Landauer Approach to Transport • The Ballistic MOSFET • The Ballistic Injection Velocity • Connecting the Ballistic and VS Models
Transmission Theory of the MOSFET: Carrier Scattering and Transmission • Transmission Theory of the MOSFET • Connecting the Transmission and VS Models • VS Characterization of Transport in Nanotransistors • Limits and Limitations

Readership: Any student and professional with an undergraduate degree in the physical sciences or engineering.



Lessons from Nanoelectronics, 2nd Edition
A New Perspective on Transport — Part A: Basic Concepts
By Supriyo Datta
ISBN 9780000991683 • PB • 276pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2024

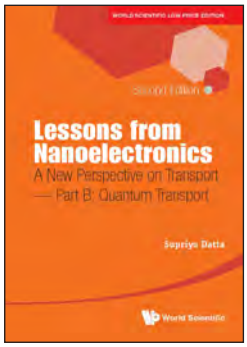
Everyone is familiar with the amazing performance of a modern smartphone, powered by a billion-plus nanotransistors, each having an active region that is barely a few hundred atoms long. The same amazing technology has also led to a deeper understanding of the nature of current flow and heat dissipation on an atomic scale which is of broad relevance to the general problems of non-equilibrium statistical mechanics that pervade many different fields.

This book is based on a set of two online courses originally offered in 2012 on nanoHUB-U and more recently in 2015 on edX. In preparing the second edition the author decided to split it into parts A and B titled Basic Concepts and Quantum Transport respectively, along the lines of the two courses. A list of available video lectures corresponding to different sections of this volume is provided upfront.

To make these lectures accessible to anyone in any branch of science or engineering, the author assume very little background beyond linear algebra and differential equations. However, the author will be discussing advanced concepts that should be of interest even to specialists, who are encouraged to look at his earlier books for additional technical details.

Contents
- Preface
- List of Available Video Lectures
- What Determines the Resistance
- Simple Model for Density of States
- What and Where is the Voltage Drop
- Heat and Electricity
- Appendices

Readership: Students and professionals in any branch of science or engineering.



Lessons from Nanoelectronics, 2nd Edition
A New Perspective on Transport — Part B: Quantum Transport
By Supriyo Datta
ISBN 9798886130089 • PB • 260pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2024

Everyone is familiar with the amazing performance of a modern smartphone, powered by a billion-plus nanotransistors, each having an active region that is barely a few hundred atoms long. The same amazing technology has also led to a deeper understanding of the nature of current flow and heat dissipation on an atomic scale which is of broad relevance to the general problems of non-equilibrium statistical mechanics that pervade many different fields.

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Contents
- Preface
- List of Available Video Lectures Quantum Transport
- Contact-ing Schrödinger
- More on NEGF
- Spin Transport
- Appendices

Readership: Students and professionals in any branch of science or engineering.

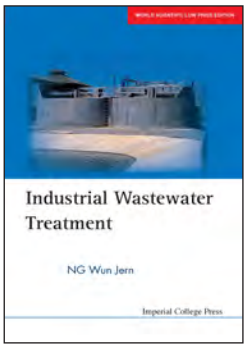
Environmental Geotechnology
Meeting Challenges Through Needs-based Instrumentation
By D N Singh, Afshin Asadi and Goli Venkata Siva Naga Sai
ISBN 9798886130782 • PB • 860pp
Original Price US$198
Indian Edition at Rs 2695 • Year 2024

Environmental Geotechnology revisits existing concepts of geotechnical engineering critically, and brings them up to date with new knowledge and current affairs so as to better address and serve today's needs of the professionals. It points out the role and importance of the parameters and mechanisms that govern the interaction of contaminants with geomaterials (soil and rock mass), and also discusses their degradation in the long-run, and the consequences that follow.

The book starts from a engineering philosophy that incorporates the influence of environmental effects (both manmade and natural) on geotechnical engineering practices. Its contents are based on geotechnical and environmental engineering studies pertaining to waste management, such as: the safe handling, transportation and disposal of waste, the estimation of waste leakage into the subsurface, its consequences, methods of containment, and the development of schemes to remediate contaminated land. It also proposes innovative strategies for waste management through the utilization of wastes based on a comprehensive characterization. Modelling techniques such as accelerated physical modelling using geotechnical centrifuge, finite-element or difference-based numerical modelling and physico-chemico-mineralogical modelling are discussed in.

Contents
- The Nature of the Environment and Soil
- Conventional- and Neo-Geomaterials
- Geomaterial Characterization
- Geoenvironmental Centrifuge Modelling
- Contaminant Transport in Saturated Soils
- Contaminant Transport in Unsaturated Soils
- Contaminant Transport in Intact Rock Mass
- Heat Migration in Geomaterials
- Response of Geomaterials to Electromagnetic Field

Readership: Undergraduate & graduate students, research scholars, and professionals working in the field of Environmental Geotechnical Engineering.

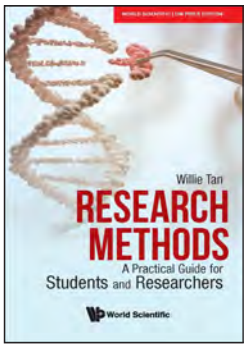


Industrial Wastewater Treatment
By NG Wun Jern
ISBN 9780000988751 • PB • 164pp
Original Price US$31
Indian Edition at Rs 1095 • Year 2020

This book adopts a "show and tell" approach to guiding readers in the area of industrial wastewater treatment and the facilities associated with such treatment. It assumes the reader is familiar with wastewater treatment theory but may be unfamiliar with the reasons why certain unit processes or equipment are included in practice, how these work, and why they fail therein. Industrial wastewaters are extremely varied and this complicates their treatment and discussion. Numerous tables showing industrial wastewater characteristics and photographs of facilities are provided so that the reader can better appreciate industrial wastewater treatment and its "culture" in Asia, and gain a degree of familiarity with the subject unachievable if only text descriptions were used. The book aims to provide a link between theory and practice. It does not only cover typical textbook material but also includes much information that would usually be accessible only to persons who have handled wastewaters and treatment facilities personally. The numerous examples provided have been drawn from the author's own field experience over two decades in Asia.

Contents
- Nature of Industrial Wastewaters
- The Sewage Treatment Plant Example
- The Industrial Wastewater Treatment Plant — Preliminary Unit Processes
- The Industrial Wastewater Treatment Plant — Biological
- The Industrial Wastewater Treatment Plant — Sludge Management
- Chemicals and Pharmaceuticals Manufacturing Wastewater
- Piggery Wastewater
- Slaughterhouse Wastewater
- Palm Oil Mill and Refinery Wastewater

Readership: Senior undergraduates, graduate students and environmental engineers.



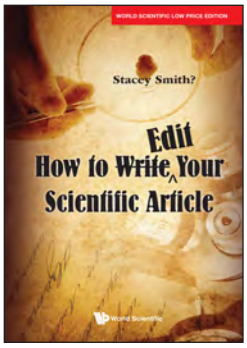
Research Methods
A Practical Guide for Students and Researchers
By Willie Tan
ISBN 9780000989055 • PB • 228pp
Original Price US$38
Indian Edition at Rs 1195 • Year 2020

Research Methods: A Practical Guide for Students and Researchers provides a practical guide to students and researchers on how to do their research systematically and professionally. The book begins by distinguishing between causal and interpretive sciences. It then guides the reader on how to formulate the research question, review the literature, develop the hypothesis or theoretical framework, select a suitable research methodology, and analyze both quantitative and qualitative data.

The book emphasizes integration. It does not merely provide a smorgasbord of research designs, data collection methods, and ways to analyze data. Instead, it shows how one can integrate these elements into a coherent research strategy.

Contents
Introduction to Research • The Research Problem • Framework or Hypothesis • Research Design I: Case Study • Research Design II: Survey • Research Design III: Comparative Design • Research Design IV: Experiment • Research Design V: Regression • Methods of Data Collection • Collection and Processing of Data • Qualitative Data Analysis • Quantitative Data Analysis I: Survey Data • Quantitative Data Analysis II: Experimental Data • Quantitative Data Analysis III: Regression Data (Part I) • Quantitative Data Analysis III: Regression Data (Part II) • Concluding Your Study • The Research Report

Readership: Undergraduate and graduate students across all research-based disciplines. Contents have been used by students from architecture, construction, engineering (all branches), information technology, and the service sector.



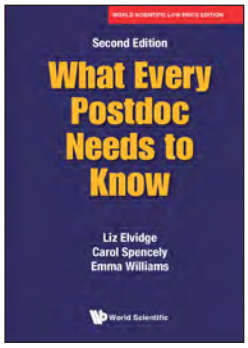
How to ~~Write~~ Edit Your Scientific Article
By Stacey Smith?
ISBN 9798886130898 • PB • 136pp
Original Price US$24
Indian Edition at Rs 1095 • Year 2024

Publications are the currency of academia. And yet, many people in the sciences, and especially mathematics, are never actually taught how to write. More specifically, they are not taught how to edit, redraft and revise their material so that the presentation is optimal for the reader. Most academic articles are appallingly written, even by native English speakers. One of the core problems is that most scientists hate writing and put only the bare minimum of effort into it. Furthermore, academic articles too often read like a first draft, with little understanding that all writing is editing. However, academic writing is a skill like any other that can be broken down into stages. This book will go through the detailed process of assembling an article, from first drafts to writing abstracts to revision to responding to reviewers, illustrated with multiple versions of worked examples as well as what not to do.

Contents

- The First Draft: This is Not Your Manuscript
- The Introduction: The Goldilocks of Writing
- Collation: Filling in the Gaps
- Refinement: This Is Where Your Manuscript Truly Begins...
- Sentence Logic: Following Through What You Started
- Responding to Professional Feedback: The Most Important Writing You Will Ever Do
- What's Next?: Talking the Talk
- Summary: Don't Be Dull

Readership: Undergraduates, graduates and researchers in the field of sciences.



What Every Postdoc Needs To Know, 2nd Edition
by Liz Elvidge, Carol Spencely & Emma Williams
ISBN 9798886131161 • PB • 304pp
Original Price US$34
Indian Edition at Rs 1595 • Year 2025

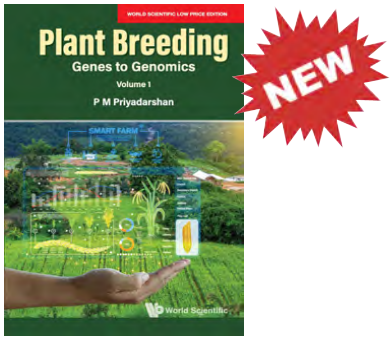
Thinking of starting a postdoc? Want to know how to move on from a postdoc? Or simply want to make the best of your postdoc years? Being a postdoc is not a career... but it can be the pivotal point in the making of one. This friendly, practical, and occasionally humorous guide to all things postdoc combines the three authors' vast experience of postdoc careers and personal development.

This Second Edition includes new material exploring the importance of collaborations, enterprise career routes and research impact.

Contents

Choosing a Postdoc • The UK Higher Education Scene • Coming to the UK as a Researcher with Lessons for Those Going Overseas • How to Get the Most Out of Your Postdoc • The Relationship with Your Principal Investigator • Publish and Prosper • The Impact of Your Research • Teaching and Supervising • Transferable Skills Development and Taking Opportunities • Working with Others: Networking and Collaboration • Unpredictable Research: Balancing Risk and Reward • More Productivity, Less Stress: Relieving the Pressure • Diversity in Research • Research Integrity and Ethics • Taking Responsibility for Your Career and Decision-Making • Careers Beyond Academia • Enterprise and the Postdoc • Fellowships • The "Lectureship Leap" (Lectureships: What Are They and How to Apply) • How to Write a Winning Curriculum Vitae (CV) • Interviews and Questions • Conclusions: What Do We Hope You Know Now? • Over to You

Readership: Existing postdocs or those thinking of undertaking a postdoc (PhD students). Researcher developers and career officers in higher education and research institutes.



Plant Breeding Volume 1
Genes to Genomics
by P M Priyadarshan
ISBN 9798886131659 • PB • 1400pp
Original Price US$34
Indian Edition at Rs 2195 • Year 2026

This book provides an in-depth look at traditional and contemporary methods of plant breeding. In 27 chapters, it examines the many facets of the discipline, from foundational principles to the latest advances.

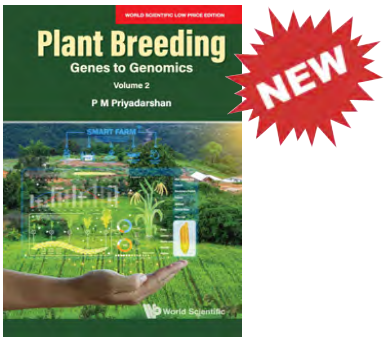
The material is designed to meet the needs of learners worldwide. Contemporary techniques such as genetic engineering, molecular breeding, and genomics are explored in depth to establish a solid foundation and prepare readers for advanced study. Each chapter is structured to provide comprehensive coverage of the subject, with nearly all topics required for MS curricula included. Chapters conclude with suggestions for further reading, while boxes present the most up-to-date information.

With its clear organization, global perspective, and inclusion of the latest developments, this book serves as an essential reference manual for MS students and an invaluable resource for researchers in plant breeding.

Contents

Generalia: Introduction to Plant Breeding • Objectives, Activities • Centres of Origin • Germplasm Conservation ***Developmental Aspects:*** Reproduction and Apomixis Incompatibility • Male Sterility • Basic Statistics ***Methods of Breeding:*** Selection • Hybridization • Backcross Breeding • Breeding Self-Pollinated Crops • Breeding Cross-Pollinated Crops • Special Breeding Populations • Quantitative Genetics
Specialized Breeding: Heterosis • Induced Mutations and Polyploidy Breeding • Distant Hybridization • Host Plant Resistance Breeding • Breeding for Abiotic Stress Adaptation • Genotype-by-Environment Interactions
Breeding for New Millennium: Tissue Culture • Genetic Engineering • Molecular Breeding • Genomics Breeding for Nutritional Quality • Emerging Breeding Technologies ***Varietal Release:*** Maintenance Breeding and Variety Release

Readership: Undergraduate biology students; Graduate agricultural sciences students with specialization on Plant Breeding; Faculties who teach Plant Breeding.



Plant Breeding Volume 2
Genes to Genomics
by P M Priyadarshan
ISBN 9798886131666 • PB 1400pp
Original Price US$34
Indian Edition at Rs 2195 • Year 2026

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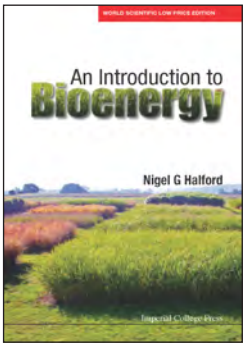


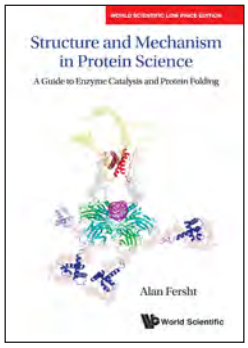
An Introduction to Bioenergy
By Nigel G Halford
ISBN 9798886131338 • PB • 164pp
Original Price US$38
Indian Edition at Rs 1795 • Year 2025

The bioenergy industry has grown rapidly since the turn of the century as politicians and energy producers have sought alternatives to fossil fuels. This has been driven by the growing consensus that carbon dioxide released during the burning of fossil fuels is causing global warming and climate change and the fact that fossil fuel reserves are finite and alternatives will have to be found.

This book provides a comprehensive introduction to bioenergy, covering liquid biofuels (bioethanol and biodiesel), biomass and biogas. It describes the feedstocks that are used, including established and potential crops as well as waste, the production processes, the products, the political interventions to support the industry and the impacts the industry has had on markets. It provides information on how this sector is developing and where it may be headed, and aims to give a balanced view on the arguments for and against the exploitation of different bioenergy sources. It would make an excellent entry-level textbook on this fascinating and rapidly changing topic, but is also accessible to the non-expert who wishes to have an overview of an industry that is already having profound effects on agricultural and energy markets around the world.

Contents
- Introduction and Definitions
- Bioethanol
- Biodiesel
- Biomass
- Biogas
- Conclusions

Readership: Undergraduate studying biology, plant sciences, environmental sciences, geography, or anything to do with energy; energy, agriculture, food and waste industry stakeholders who want to know about the opportunities and implications of bioenergy; policymakers who need information on the bioenergy industry; members of the public with good general scientific knowledge who want to know about this new and rapidly expanding industry.

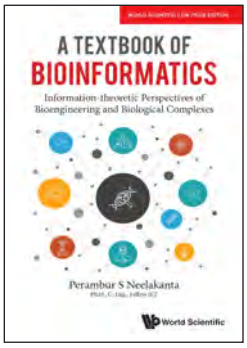


Structure and Mechanism in Protein Science
A Guide to Enzyme Catalysis and Protein Folding
By Alan Fersht
ISBN 9780000991720 • PB • 656pp
Original Price US$78
Indian Edition at Rs 1895 • Year 2024

This book is a guide for advanced undergraduates, post-graduates and researchers to the fundamental principles in studying kinetics and mechanism of processes concerning proteins. It provides a rare broad overview that concentrates on fundamental principles and understanding underlying the physics and chemistry. It is a single author text by someone who has direct experience in all of the areas covered.

Contents
Preface • The Three-Dimensional Structure of Proteins • Chemical Catalysis • The Basic Equations of Enzyme Kinetics • Measurement and Magnitude of Individual Rate Constants • The pH Dependence of Enzyme Catalysis • Practical Methods for Kinetics and Equilibria • Detection of Intermediates in Enzymatic Reactions • Stereochemistry of Enzymatic Reactions • Active-Site-Directed and Enzyme-Activated Irreversible Inhibitors: "Affinity Labels" and "Suicide Inhibitors" • Conformational Change, Allosteric Regulation, Motors, and Work • Forces Between Molecules, and Binding Energies • Enzyme-Substrate Complementarity and the Use of Binding Energy in Catalysis • Specificity and Editing Mechanisms • Recombinant DNA Technology • Protein Engineering • Case Studies of Enzyme Structure and Mechanism • Protein Stability • Kinetics of Protein Folding • Folding Pathways and Energy Landscapes • Index

Readership: Advanced undergraduates, postgraduates and researchers to the fundamental principle in studying kinetics and mechanism of processes concerning proteins.



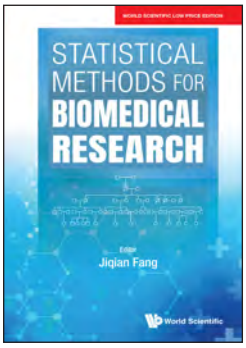
A Textbook of Bioinformatics
Information-theoretic Perspectives of Bioengineering and Biological Complexes
By Perambur S Neelakanta
ISBN 9780000991751 • PB • 684pp
Original Price US$88
Indian Edition at Rs 3195 • Year 2024

This book on bioinformatics is designed as an introduction to the conventional details of genomics and proteomics as well as a practical comprehension text with an extended scope on the state-of-the-art bioinformatic details pertinent to next-generation sequencing, translational/clinical bioinformatics and vaccine-design related viral informatics.

It includes four major sections: (i) An introduction to bioinformatics with a focus on the fundamentals of information-theory applied to biology/microbiology, with notes on bioinformatic resources, data bases, information networking and tools; (ii) a collection of annotations on the analytics of biomolecular sequences, with pertinent details presented on biomolecular informatics, pairwise and multiple sequences, viral sequence informatics, next-generation sequencing and translational/clinical bioinformatics; (iii) a novel section on cytogenetic and organelle bioinformatics explaining the entropy-theoretics of cellular structures and the underlying informatics of synteny correlations; and (iv) a comprehensive presentation on phylogeny and species informatics.

Contents
- Bioinformatics: An Introduction
- Informatics of Biomolecular Sequences
- Bioinformatic Resources and Translational/Clinical Informatics
- Bioinformatics of Cytogenetic Complex and Viral Omic Landscape
- Phylogenetic and Species Informatics

Readership: Undergraduates/graduates and researchers in biology, health/medical sciences, veterinary/agricultural sciences, biotechnology, bioengineering, bioinformatics, computational biology and biocomputing.



Statistical Methods for Biomedical Research
Edited by Jiqian Fang
ISBN 9798886131314 • PB • 1160pp
Original Price US$238
Indian Edition at Rs 2795 • Year 2025

This book consists of four parts with 32 chapters adapted for four short courses, from the basic to the advanced levels of medical statistics (biostatistics), ideal for biomedical students. Part 1 is a compulsory course of Basic Statistics with descriptive statistics, parameter estimation and hypothesis test, simple correlation and regression. Part 2 is a selective course on *Study Design and Implementation* with sampling survey, interventional study, observational study, diagnosis study, data sorting and article writing. Part 3 is a specially curated course of *Multivariate Analyses* with complex analyses of variance, variety of regressions and classical multivariate analyses. Part 4 is a seminar course on *Introduction to Advanced Statistical Methods* with meta-analysis, time series, item response theory, structure equation model, multi-level model, bio-informatics, genetic statistics and data mining. The main body of each chapter is followed by five practical sections: *Report Writing*, *Case Discrimination*, *Computer Experiments*, *Frequently Asked Questions and Summary*, and *Practice & Think*. Moreover, there are 2 attached Appendices, Appendix A includes Introductions to SPSS, Excel and R respectively, and Appendix B includes all the programs, data and printouts for *Computer Experiments* in addition to the T*ests for Review* and the reference answers for *Case Discrimination* as well as *Practice & Think*.

This book can be used as a textbook for biomedical students at both under- and postgraduate levels. It can also serve as an important guide for researchers, professionals and officers in the biomedical field.

Contents:
Introduction • Basic Concepts and Methods • Design and Implementation of Bio-Medical Research • Frequently Used Powerful Statistical Methods • Selected Topics of Advanced Statistics • Appendices

Readership: Biostatisticians, applied statisticians, medical researchers and clinicians, bioscience students, biopharmaceutical researchers, public health epidemiologists; biometricians& applied mathematicians.

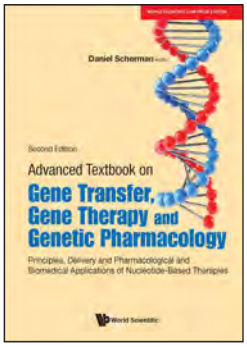
Biotechnology
Scientific Advancement versus Public Safety
By Conrad B Quintyn
ISBN 9798886131123 • PB • 392pp
Original Price US$128
Indian Edition at Rs 1650 • Year 2024

In this book, Dr Quintyn considers whether genetic engineering will exacerbate social injustices and/or lead to public safety issues. As designer babies mature, will they feel a sense of superiority or pass on mutations that negatively affect future generations? Should we ignore the risk of zoonotic (animal) diseases because they offer potential benefits for reducing organ shortages? Scientific advancement, if not guided responsibly and with public input, can be detrimental to public safety.

This book is unique as it encompasses many biotechnologies within the definition of biotechnology. It gives a balanced view of biotechnology: its promise as evidenced in repairing mutations (i.e., genetic editing) and its dangers evidenced in creating (unintentionally) dangerous microbes or unregulated germline editing and cloning.

Contents
- Defining Bioengineering: The New Eugenics?
- Genetic Engineering in the 21st Century
- Cloning and In Vitro Fertilization
- Designer or Selected Babies
- The "New World": Discovering the CRISPR System
- Genome Editing: Rewriting the Fundamental Code of Life
- Crossing the Rubicon
- Playing God
- Bioengineering & the Emergence of Dual Use
- The Murky Waters of Regulation in the Age of Genetic Engineering
- Benefits and Risks: The Eternal Struggle
- Making New Mistakes? Bionanotechnology and Nanomedicine
- Unintended Consequences
- The Impatience with Natural Selection
- Transhumanists, Homo evolutis, and Hubris

Readership: Students, professionals: biomedical scientists, social scientists, ethicists, health care providers, policymakers, regulators, research funders, faith healers, industry representatives, patients and their families, people with disabilities, and members of the general public.



Advanced Textbook on Gene Transfer, Gene Therapy and Genetic Pharmacology, 2nd Edition

Principles, Delivery and Pharmacological and Biomedical Applications of Nucleotide-Based Therapies

By Daniel Scherman

ISBN 9780000988416 • PB • 636pp

Original Price US$88

Indian Edition at Rs 2195 • Year 2020

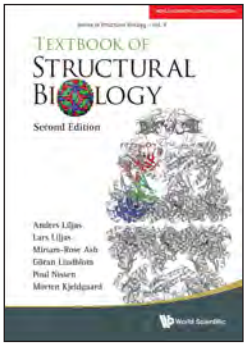
This unique advanced textbook provides a clear and comprehensive overview of gene delivery, gene therapy and genetic pharmacology, with descriptions of the main gene transfer vectors and a set of selected therapeutic applications, along with safety considerations. It features new groundbreaking material on genome editing using the recently discovered CRISPR/Cas9 system and on cancer immunotherapy by CAR-T cells. It also presents the historical milestone of gene therapy application in the field of severe combined immunodeficiency, and other fields of gene therapy and molecular medicine. The use of gene transfer is exponentially growing in the scientific and medical communities for day-to-day cell biology experiments and swift development of gene therapy, which is already revolutionizing medicine. In this advanced textbook, more than 30 leading scientists come together to explore these topics.

This educational introduction provides the background material needed to further explore the subject as well as relevant research literature. It is an invaluable resource to Master, PhD or MD students, post-doctoral scientists or medical doctors, as well as any scientist wishing to deliver a gene or synthetic nucleotide or develop a gene therapy strategy. The second edition's simple and synthetic content will be of value to any reader interested in the biological & medical revolution derived from the elucidation of the human genome.

Contents

Basic Definitions and Principles • Vectors and Gene Delivery Techniques • Therapeutic Applications • Gene Vector Production

Readership: Master, PhD or MD students, post-doctoral scientists or medical doctors, & any scientists using gene transfer techniques or implementing gene therapy strategies.



Textbook of Structural Biology, 2nd Edition

By Anders Liljas, Lars Liljas, Miriam-Rose Ash, Göran Lindblom, Poul Nissen and Morten Kjeldgaard

ISBN 9780000989093 • PB • 612pp

Original Price US$88

Indian Edition at Rs 2195 • Year 2020

This book provides a comprehensive coverage of the basic principles of structural biology, as well as an up-to-date summary of some main directions of research in the field. The relationship between structure and function is described in detail for soluble proteins, membrane proteins, membranes, and nucleic acids.

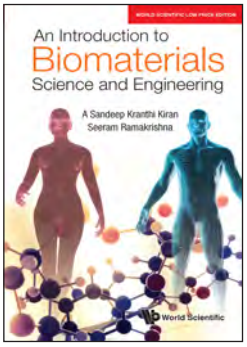
There are several books covering protein structure and function, but none that give a complete picture, including nucleic acids, lipids, membranes and carbohydrates, all being of central importance in structural biology.

The book covers state-of-the-art research in various areas. It is unique for its breadth of coverage by experts in the fields.

Contents

Introduction
Basics of Protein Structure
The Folding, Folds and Functions of Proteins
Basics of Membrane Proteins
Basics of Nucleic Acid Structure
Basics of Lipids and Membrane Structure
Basics of Carbohydrates
Enzymes
Genome Structure, DNA Replication and Recombination
Transcription
Protein Synthesis — Translation
Protein Folding and Degradation
Transmembrane Transport
Signal Transduction
Cell Motility and Transport
Structural Aspects of Cell-Cell Interactions
The Immune System
Virus Structure and Function
Bioinformatics Tools in Structural Biology

Readership: Undergraduate and graduate students in structural biology, chemistry, biochemistry, biology and medicine.



An Introduction to Biomaterials Science and Engineering

By A Sandeep Kranthi Kiran & Seeram Ramakrishna

ISBN 9781944660383 • PB • 412pp

Original Price US$98

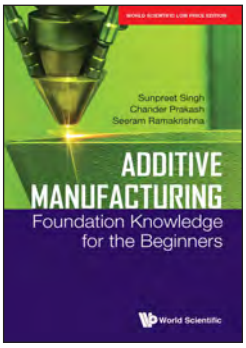
Indian Edition at Rs 2050 • Year 2023

This book presents a broad scope of the field of biomaterials science and technology, focusing on theory, advances and applications. It is written for those who would like to develop their interest and knowledge towards biomaterials or materials science and engineering. All aspects of biomaterials science are thoroughly addressed, from basic principles of biomaterials, organs and medical devices to advanced topics such as tissue engineering, surface engineering, sterilization techniques, 3D printing and drug delivery systems. Readers are also introduced to major concepts of surface modification techniques, and potential applications of different classes of biomaterials. Multiple-choice questions at the end of every chapter will be helpful for students to test their understanding of each topic, with answers provided at the end of the book.

Ultimately, this book offers a one-stop source of information on the essentials of biomaterials and engineering. It is useful both as an introduction and advanced reference on recent advances in the biomaterials field. Suitable readers include undergraduate and graduate students, especially those in Materials Science, Biomedical Engineering and Bioengineering.

Contents

- Functions of Human Body Systems
- Human Disabilities and Diseases
- Properties and Microstructure of Tissues
- Biomaterials: Basic Principles
- Polymeric Biomaterials
- Bioceramics
- Metallic Biomaterials
- Medical Devices: Standards, Regulations and Sterilization
- Surface Engineering
- Tissue Engineering and Regenerative Medicine
- Drug Delivery
- Biosensors
- Additive Manufacturing and Bioprinting

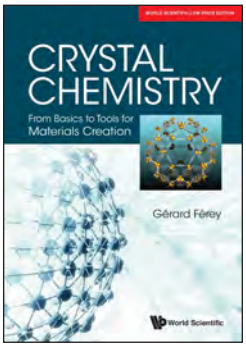


Additive Manufacturing
Foundation Knowledge For The Beginners
By Sunpreet Singh *et al.*
ISBN 9780000990426 • PB • 176pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2021

This book provides the key fundamental principles, classifications, recent developments, as well as different applications of additive manufacturing technologies. A comprehensive overview of the different classes is given, covering polymer-based, metal-based and ceramic-based systems. Special topics such as bioprinting and 4D printing are also introduced. The authors discuss the technological aspects of additive manufacturing in a very clear and understandable way, delivered with the help of self-illustrating artworks. This book is particularly designed to suit the curriculum requirements of undergraduate and graduate students enrolled in Mechanical Engineering, Material Science, Product Design and Development, Biomedical Engineering, Automobile and Aerospace Engineering, and other closely related domains. Manufacturing professionals working in similar fields may also wish to read it as a refresher and to catch up on recent advances.

Contents
- Introduction to Additive Manufacturing
- Polymer-Based Additive Manufacturing System
- Metal-Based Additive Manufacturing System
- Ceramic-Based Additive Manufacturing System
- Special Additive Manufacturing System
- Testing and Measurement

Readership: Undergraduate and graduate students enrolled in Mechanical Engineering, Material Science, Product Design and Development, Biomedical Engineering, Automobile and Aerospace Engineering. Manufacturing professionals working in mechanical, manufacturing, biomedical, aerospace, automobile, and other similar domains.



Crystal Chemistry
From Basics to Tools for Materials Creation
By Gérard Férey
ISBN 9780000988539 • PB • 264pp
Original Price US$55
Indian Edition at Rs 1495 • Year 2020

Devoted to a diverse group of solid state scientists, the book has two objectives, both relating to structural chemistry: (i) a progressive analytic familiarization with the main parameters that govern the organization of crystallized matter and related crystal structures, (ii) a study of what are the various ways to 'read' a structure far beyond its representation in scientific articles. Hence, the reader will, from numerous examples illustrated in color, analyze what are the main characteristics of these structures, from their geometric characteristics, their coordination polyhedra, their connections with the resulting dimensionalities of these solids, including also the defects they exhibit, before looking at possibilities to classify structures, within which recurrence laws can emerge.
Chemists are required to understand the potentials of a new structure for becoming future materials scientists. The first part of the book is by no means a database for known structures, but facilitates a progressive understanding of the organization of the solid state. With these tools in hand, the reader is invited in the later part of the book to analyze new structures, and to also use new concepts for viewing structures in a more synthetic way for the future. Such new vision is already leading to the creation of completely new solids with outstanding characteristics that find applications in societal problems concerning energy, energy savings, environment and health.

Contents
A First Familiarization with Geometric Shapes: The Dense Packings • Some Notions of Symmetry • The Projections, Their Reading, Their Uses ... • Some Disorder within Order! • Armatures, Gilders and Bricks! ... Other Ways of Reading a Structure • The Structural Relations... Their Deciphering • Crystal Chemistry— A Tool for Creation ... or ... The New Architects of Matter

Readership: Undergraduate and graduate students in solid state sciences, coordination chemists and physicists.

Carbon Materials
Science and Applications
By Deborah D L Chung
ISBN 9781944660932 • PB • 384pp
Original Price US$48
Indian Edition at Rs 2695 • Year 2024

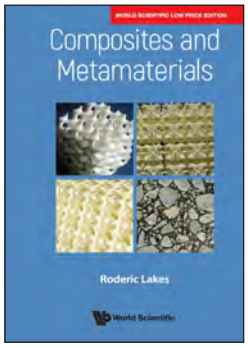
Elemental carbon materials take numerous forms including graphite, carbon fiber, carbon nanotube, graphene, carbon black, activated carbon, fullerene and diamond. These forms differ greatly in the structure, properties, fabrication method, and applications. The applications of these carbon forms include electronic, electromagnetic, electrochemical, environmental and biomedical applications. Carbon materials are a subject of intense research, with strong relevance to both science and technology.

This book provides a tutorial-style and up-to-date coverage of the carbon forms. In addition to an introductory chapter on carbon materials, the book includes chapters on graphite, graphene, carbon black, activated carbon, carbon fibers, and carbon nanofibers/nanotubes. For example, the chapter on graphite covers various materials in the graphite family, including polycrystalline graphite, pyrolytic graphite, turbostratic carbon, intercalated graphite, graphite oxide, exfoliated graphite and flexible graphite, in addition to their electronic and mechanical properties.

This book is suitable for use as a textbook for undergraduate and graduate students in science and engineering, and as a reference book for professionals. It is dedicated to the memory of the author's PhD thesis advisor, Professor M S Dresselhaus (1930–2017) of Massachusetts Institute of Technology.

Contents
- Introduction to Carbon Materials
- Graphite
- Graphene
- Carbon Black
- Activated Carbon
- Carbon Fibers
- Carbon Nanofibers and Nanotubes

Readership: Undergraduate and graduate students as well as professionals working on carbon materials.



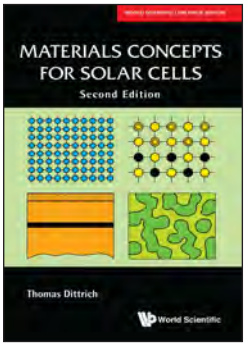
Composites and Metamaterials
By Roderic Lakes
ISBN 9798886130171 • PB • 280pp
Original Price US$78
Indian Edition at Rs 1795 • Year 2024

This book is an excellent primer for students to learn about physical properties, particularly mechanical properties of heterogeneous and multiphase materials and the cultivation of physical insight. Written by a prominent author who pioneered many of the concepts, this book provides a comprehensive coverage of fundamental and current topics in traditional composites and new heterogeneous materials.

Topics covered include:
- Principles of the mechanics of solid multiphase systems.
- Role of heterogeneity and anisotropy in determining physical properties including elastic, dielectric & piezoelectric properties.
- Coupled fields; smart materials including piezoelectric materials & thermal actuators.
- Applications in lightweight structures, ultra-strong materials, materials for protection of the body, and materials for the replacement of human tissues.
- Materials with fibrous, lamellar, particulate, and cellular structures.
- Lattice metamaterials. Extreme and unusual physical properties.
- Heterogeneous materials of biological origin.
- Metamaterials and biomimetic and bio-inspired materials.

Contents
- Introduction
- Structures, Properties and Bounds
- Symmetry and Anisotropy
- Coupled Fields
- Particles, Fibers, Platelets
- Cellular Solids and Lattices
- Biological Material Structural Hierarchy
- Size of Heterogeneity
- Viscoelastic Composites

Readership: This book is intended as a course pack for senior and graduate students to understand physical properties.



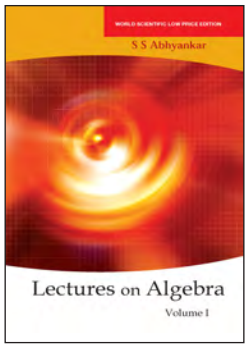
Materials Concepts for Solar Cells, 2nd Edition
By Thomas Dittrich
ISBN 9781944659981 • PB • 568pp
Original Price US$72
Indian Edition at Rs 1495 • Year 2022

This textbook explains the principles, concepts and materials used in solar cells. It combines basic knowledge about solar cells and the demanded criteria for the materials with a comprehensive introduction into each of the four classes of materials for solar cells, i.e. solar cells based on crystalline silicon, epitaxial layer systems of III-V semiconductors, thin-film absorbers on foreign substrates, and nano-composite absorbers. In this sense, it bridges a gap between basic literature on the physics of solar cells and books specialized on certain types of solar cells.

The last five years had several breakthroughs in photovoltaics and in the research on solar cells and solar cell materials. We consider them in this second edition. For example, the high potential of crystalline silicon with charge-selective hetero-junctions and alkaline treatments of thin-film absorbers, based on chalcopyrite, enabled new records. Research activities were boosted by the class of hybrid organic-inorganic metal halide perovskites, a promising newcomer in the field. This is essential reading for students interested in solar cells and materials for solar cells. It encourages students to solve tasks at the end of each chapter.

Contents
Symbols and Abbrevations • Basics of Solar Cells and Materials Demands: Basic Characteristics and Characterization of Solar Cells • Photocurrent Generation and the Origin of Photovoltage • Influence of Recombination on the Minimum Lifetime • Charge Separation Across *pn*-Junctions • Ohmic Contacts for Solar Cells • Maximum Efficiency of Solar Cells • Materials Specific Concepts: Solar Cells Based on Crystalline Si • Solar Cells Based on III–V Semiconductors • Thin-Film Solar Cells • Nanocomposite Solar Cells • Solutions to Tasks • Index

Readership: Advanced undergraduates and graduate students in photovoltaics, as well as students with background in materials science, engineering, chemistry or physics.



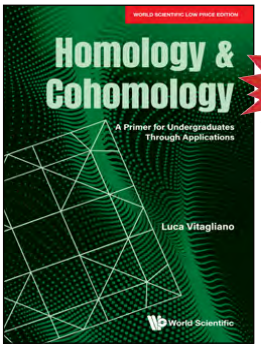
Lectures on Algebra
Volume 1
By S S Abhyankar
ISBN 9781944659875 • PB • 756pp
Original Price US$103
Indian Edition at Rs 2395 • Year 2022

This book is a timely survey of much of the algebra developed during the last several centuries including its applications to algebraic geometry and its potential use in geometric modeling.

The present volume makes an ideal textbook for an abstract algebra course, while the forthcoming sequel, Lectures on Algebra II, will serve as a textbook for a linear algebra course. The author's fondness for algebraic geometry shows up in both volumes, and his recent preoccupation with the applications of group theory to the calculation of Galois groups is evident in the second volume which contains more local rings and more algebraic geometry. Both books are based on the author's lectures at Purdue University over the last few years.

Contents
- Quadratic Equations (Rings)
- Curves and Surfaces (Fields)
- Tangents and Polars (Valuations)
- Varieties and Models (Ideals)
- Projective Varieties (Modules)
- Pause and Refresh (Groups)

Readership: Students and lecturers in mathematics, computer science and engineering.



Homology & Cohomology
A Primer for Undergraduates Through Applications
By Luca Vitagliano
ISBN 9798886131857 • PB • 272pp
Original Price US$48
Indian Edition at Rs 1795 • Year 2026

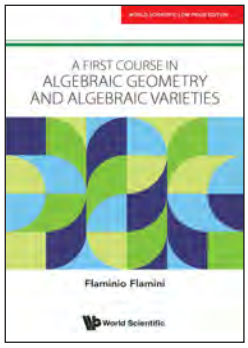
The book introduces (co)homology theory and some of its applications in Algebra and Geometry. It is intended for undergraduate Mathematics students, as well as graduate and postgraduate students in other fields, particularly Theoretical Physics, who require a highly compact overview of this vast theory. The book also explores how (co)homology theory naturally arises in seemingly unrelated areas of Mathematics.

The theory is presented from scratch, requiring no prerequisites other than basic linear algebra, point-set topology, and calculus. The presentation is simple, concise, yet rigorous, making it accessible to undergraduate Mathematics and likely Physics students from the third year onward. The book emphasizes the theory's numerous applications across Algebra and Geometry, rather than focusing solely on the theoretical aspects. The pedagogical approach of this book, complemented by examples and exercises, sets it apart from standard textbooks in Homological Algebra and Algebraic Topology.

After having gone through these lecture notes, the reader will be ready to tackle more specialized and advanced subjects such as Homological Algebra, Homotopy Theory, and Algebraic Topology.

Contents
- Multilinear Algebra
- Chain and Cochain Complexes
- Categories and Functors
- Applications in Algebra
- Singular Homology
- de Rham Cohomology

Readership: Undergraduate students in Mathematics and Physics, as well as graduate and postgraduate students in other fields, particularly Theoretical Physics.



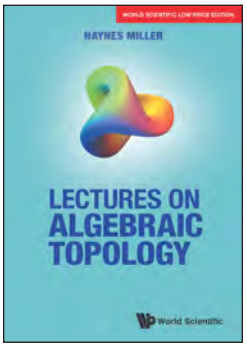
A First Course in Algebraic Geometry and Algebraic Varieties
By Flaminio Flamini
ISBN 9798886130270 • PB • 328pp
Original Price US$58
Indian Edition at Rs 1695 • Year 2024

This book provides a gentle introduction to the foundations of Algebraic Geometry, starting from computational topics (ideals and homogeneous ideals, zero loci of ideals) up to increasingly intrinsic and abstract arguments, such as "Algebraic Varieties", whose natural continuation is a more advanced course on the theory of schemes, vector bundles, and sheaf-cohomology.

Valuable to students studying Algebraic Geometry and Geometry, this title contains around 60 exercises (with solutions) to help students thoroughly understand the theories introduced in the book. Proofs of the results are carried out in full detail. Many examples are discussed in order to reinforce the understanding of both the theoretical elements and their consequences, as well as the possible applications of the material.

Contents
Basics on Commutative Algebra
Algebraic Affine Sets
Algebraic Projective Sets
Topological Properties and Algebraic Varieties
Regular and Rational Functions on Algebraic Varieties
Morphisms of Algebraic Varieties
Products of Algebraic Varieties
Rational Maps of Algebraic Varieties
Completeness of Projective Varieties
Dimension of Algebraic Varieties
Fiber-Dimension: Semicontinuity
Tangent Spaces: Smoothness of Algebraic Varieties
Solutions to Exercises
Bibliography
Index

Readership: Advanced undergraduate students (specifically in their 3rd year of undergraduate study or their 1st year of postgraduate study) in the field of Algebraic Geometry; advanced Bachelor courses in Geometry or first courses Geometry during postgraduate study.

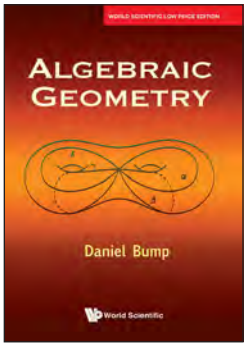


Lectures on Algebraic Topology
By Haynes Miller
ISBN 9781944660437 • PB • 404pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2023

Algebraic Topology and basic homotopy theory form a fundamental building block for much of modern mathematics. These lecture notes represent a culmination of many years of leading a two-semester course in this subject at MIT. The style is engaging and student-friendly, but precise. Every lecture is accompanied by exercises. It begins slowly in order to gather up students with a variety of backgrounds, but gains pace as the course progresses, and by the end the student has a command of all the basic techniques of classical homotopy theory.

Contents
- Preface
- Singular Homology
- Computational Methods
- Cohomology and Duality
- Basic Homotopy Theory
- The Homotopy Theory of CW Complexes
- Vector Bundles and Principal Bundles
- Spectral Sequences and Serre Classes
- Characteristic Classes, Steenrod Operations, and Cobordism
- Bibliography
- Index

Readership: Ideal for a beginning graduate course, aimed at students familiar with general topology and basic modern algebra; also good for researchers who need to use the methods of algebraic topology, in mathematics at large and in theoretical physics.



Algebraic Geometry
By Daniel Bump
ISBN 9781944659851 • PB • 228pp
Original Price US$56
Indian Edition at Rs 1095 • Year 2022

This is a graduate-level text on algebraic geometry that provides a quick and fully self-contained development of the fundamentals, including all commutative algebra which is used. A taste of the deeper theory is given: some topics, such as local algebra and ramification theory, are treated in depth. The book culminates with a selection of topics from the theory of algebraic curves, including the Riemann — Roch theorem, elliptic curves, the zeta function of a curve over a finite field, and the Riemann hypothesis for elliptic curves.

Contents
- Affine Algebraic Sets and Varieties
- The Extension Theorem
- Maps of Affine Varieties
- Dimensions and Products
- Local Algebra
- Properties of Affine Varieties
- Varieties
- Complete Nonsingular Curves
- Ramification
- Completions
- Differentials and Residues
- The Riemann–Roch Theorem
- Elliptic Curves and Abelian Varieties
- The Zeta Function of a Curve

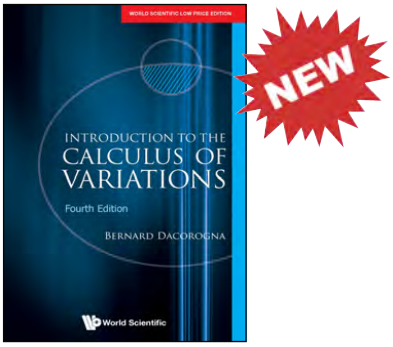
Readership: Graduate students in mathematics.

Starting Category Theory
By Paolo Perrone
ISBN 9798886131789 • PB • 464pp
Original Price US$48
Indian Edition at Rs 1495 • Year 2026

One of the central highlights of this work is the exploration of the Yoneda lemma and its profound implications, during which intuitive explanations are provided, as well as detailed proofs, and specific examples. This book covers aspects of category theory often considered advanced in a clear and intuitive way, with rigorous mathematical proofs. It investigates universal properties, coherence, the relationship between categories and graphs, and treats monads and comonads on an equal footing, providing theorems, interpretations and concrete examples. Finally, this text contains an introduction to monoidal categories and to strong and commutative monads, which are essential tools in current research but seldom found in other textbooks.

Contents
Basic Concepts: • Categories • Mono and Epi Functors • Natural Transformations • Studying Categories by Means of Functors ***The Yoneda Lemma:*** • Representable Functors and the Yoneda Embedding Theorem • Statement and Proof of the Yoneda Lemma ***Universal Properties Limits and Colimits:*** • General Definitions • Particular Limits and Colimits • Functors, Limits and Colimits • Limits and Colimits of Sets ***Adjunctions:*** • General Definitions
Unit and Counit • Adjunctions, Limits and Colimits
• The Adjoint Functor Theorem for Preorders
Monads and Comonads: • Monads as Extensions of Spaces • Monads as Theories of Operations • Comonads as Extra Information • Comonads as Processes on Spaces • Adjunctions, Monads, and Comonads ***Monoidal Categories:*** • General Definitions • Monoids and Comonoids • Monoidal Functors • Monads on Monoidal Categories • Closed Monoidal Categories

Readership: This book is primarily targeted towards undergraduate and graduate students in mathematics and related fields (physics, computer science, statistics, engineering), and is suitable for either course adoption for category theory and discrete mathematics, or for self-study.



Introduction to the Calculus of Variations
By Bernard Dacorogna
ISBN 9798886131840 • PB • 368pp
Original Price US$68
Indian Edition at Rs 1395 • Year 2026

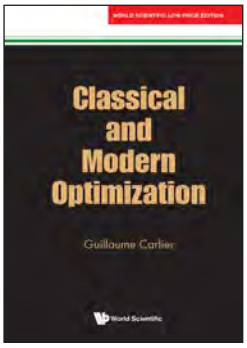
The calculus of variations is one of the oldest subjects in mathematics, and it is very much alive and still evolving. Besides its mathematical importance and its links to other branches of mathematics, such as geometry or differential equations, it is widely used in physics, engineering, economics and biology.

This book serves both as a guide to the expansive existing literature and as an aid to the non-specialist — mathematicians, physicists, engineers, students or researchers — in discovering the subject's most important problems, results and techniques. Despite the aim of addressing non-specialists, mathematical rigor has not been sacrificed; most of the theorems are either fully proved or proved under more stringent conditions.

This new edition offers an entirely new chapter, as well as the addition of several new exercises. The book, containing a total of 147 exercises with detailed solutions, is well designed for a course at both undergraduate and graduate levels.

Contents
- Preface to the Fourth English Edition
- About the Author
- Introduction
- Preliminaries
- Classical Methods
- Direct Methods: Existence
- Direct Methods: Regularity
- Minimal Surfaces
- Isoperimetric Inequality
- Geodesic
- Solutions to the Exercises
- Bibliography
- Index

Readership: This book is suitable for advanced undergraduate and graduate students, as well as researchers in the field of calculus of variations and differential equations. It would also be applicable to physicists, engineers economists or biologists more generally who are interested in mathematics.

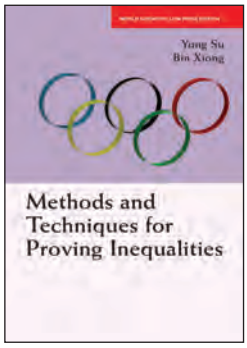


Classical and Modern Optimization
By Guillaume Carlier
ISBN 9781944660529 • PB • 388pp
Original Price US$68
Indian Edition at Rs 1595 • Year 2023

Classical and Modern Optimization presents a self-contained overview of classical and modern ideas and methods in approaching optimization problems. The approach is rich and flexible enough to address smooth and non-smooth, convex and non-convex, finite or infinite-dimensional, static or dynamic situations. The first chapters of the book are devoted to the classical toolbox: topology and functional analysis, differential calculus, convex analysis and necessary conditions for differentiable constrained optimization. The remaining chapters are dedicated to more specialized topics and applications.Valuable to a wide audience, including students in mathematics, engineers, data scientists or economists, *Classical and Modern Optimization* contains more than 200 exercises to assist with self-study or for anyone teaching a third- or fourth-year optimization class.

Contents
Topological & Functional Analytic Preliminaries • Differential Calculus • Convexity • Optimality Conditions for Differentiable Optimization • Problems Depending on a Parameter • Convex Duality and Applications • Iterative Methods for Convex Minimization • When Optimization and Data Meet • An Invitation to the Calculus of Variations

Readership: Thought-leaders, executives, industry strategists, research scientists, graduate students, advanced undergraduate students, policy-makers, research funding agencies, private research institutions, government regulators, investors, corporate managers, purchasing agents, and entrepreneurs in the areas of computer science, quantum computing, information theory, neuroscience, and physics.



Methods and Techniques for Proving Inequalities
In Mathematical Olympiad and Competitions
By Yong Su and Bin Xiong
ISBN 9798886131253 • PB • 228pp
Original Price US$32
Indian Edition at Rs 1495 • Year 2025

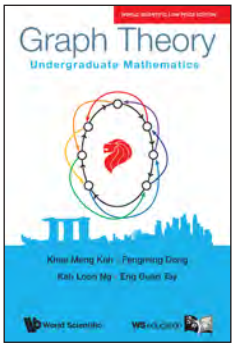
In China, lots of excellent maths students take an active interest in various maths contests and the best six senior high school students will be selected to form the IMO National Team to compete in the International Mathematical Olympiad. In the past ten years China's IMO Team has achieved outstanding results — they won the first place almost every year.

The authors are coaches of China's IMO National Team, whose students have won many gold medals many times in IMO.

This book is part of the Mathematical Olympiad Series which discusses several aspects related to maths contests, such as algebra, number theory, combinatorics, graph theory and geometry. The book explains many basic techniques for proving inequalities such as direct comparison, method of magnifying and reducing, substitution method, construction method, and so on.

Contents
- Basic Techniques for Proving Inequalities
- Identical Transformation of the Sum
- Substitution Method
- Proof by Contradiction
- Construction Method
- Local Inequality
- Mathematical Induction and Inequality
- Inequality and Extremum for Multi-Variable Function
- Special Techniques for Proving Inequalities
- Detailed Solutions to Exercises

Readership: Senior high school students engaged in math contests, math teachers, undergraduates of math major and math enthusiasts.

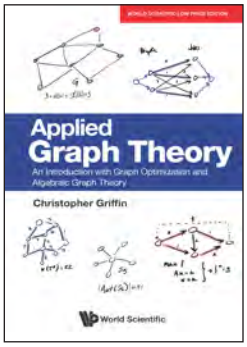


Graph Theory
Undergraduate Mathematics
By Khee Meng Koh *et al.*
ISBN 9798886131468 • PB • 496pp
Original Price US$68
Indian Edition at Rs 1950 • Year 2025

This book is an expansion of our first book Introduction to Graph Theory: H3 Mathematics. While the first book was intended for capable high school students and university freshmen, this version covers substantially more ground and is intended as a reference and textbook for undergraduate studies in Graph Theory. In fact, the topics cover a few modules in the Graph Theory taught at the National University of Singapore. The reader will be challenged and inspired by the material in the book, especially the variety and quality of the problems, which are derived from the authors' years of teaching and research experience.

Contents
- Fundamental Concepts and Basic Results
- Graph Isomorphisms, Subgraphs, the Complement of a Graph and Graphic Sequences
- Bipartite Graphs and Trees
- Eulerian Multigraphs and The Chinese Postman Problem
- Hamiltonian Graphs and The Traveling Salesman Problem
- Connectivity
- Independence, Matching and Covering
- Vertex-colorings and Planar Graphs
- Domination
- Digraphs and Tournaments

Readership: Undergraduates in combinatorics and graph theory.

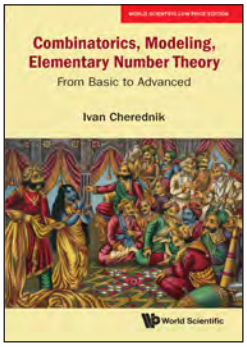


Applied Graph Theory
An Introduction with Graph Optimization and Algebraic Graph Theory
By Christopher Griffin
ISBN 9798886130980 • PB • 304pp
Original Price US$98
Indian Edition at Rs 1595 • Year 2024

This book serves as an introduction to graph theory and its applications. It is intended for a senior undergraduate course in graph theory but is also appropriate for beginning graduate students in science or engineering. The book presents a rigorous (proof-based) introduction to graph theory while also discussing applications of the results for solving real-world problems of interest. The book is divided into four parts. Part 1 covers the combinatorial aspects of graph theory including a discussion of common vocabulary, a discussion of vertex and edge cuts, Eulerian tours, Hamiltonian paths and a characterization of trees. This leads to Part 2, which discusses common combinatorial optimization problems. Spanning trees, shortest path problems and matroids are all discussed, as are maximum flow problems. Part 2 ends with a discussion of graph coloring and a proof of the NP-completeness of the coloring problem. Part 3 introduces the reader to algebraic graph theory, and focuses on Markov chains, centrality computation (e.g., eigenvector centrality and page rank), as well as spectral graph clustering and the graph Laplacian. Part 4 contains additional material on linear programming, which is used to provide an alternative analysis of the maximum flow problem.

Contents
- Introduction to Graphs
- Optimization in Graphs & NP-Completeness
- Some Algebraic Graph Theory
- Linear Programming and Graph Theory
- Appendices

Readership: Advanced Undergraduate Students or Beginning Graduate Students in Mathematics (those who have taken a first course in proofs). Graduate Students in STEM who want a rigorous text on graph theory that also focuses on applications. This could be used as a secondary text in a physics course on Network Science, or potentially in a rigorous course in theoretical computer science or operations research with graph theory.



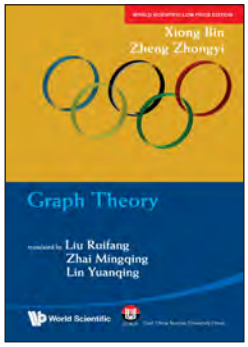
Combinatorics, Modeling, Elementary Number Theory
From Basic to Advanced
By Ivan Cherednik
ISBN 9798886130508 • PB • 392pp
Original Price US$118
Indian Edition at Rs 2895 • Year 2024

This book is mostly based on the author's 25 years of teaching combinatorics. The design is to go quickly from zero knowledge to advanced themes and various applications with a lot of topics intended for additional reading and research projects. It contains an all-inclusive collection of 135 problems and 275 exercises with four difficulty levels: solutions, hints and answers are provided.

Some themes of the book:
Enumerative combinatorics and basic graph theory: Introduction to dimers, tilings, magic and Latin squares, permutations, combinations, generating functions, games of chance, random walks, binomial and Poisson distributions. Catalan numbers, their generalizations and applications, including roulette and pricing derivatives. Euler and Hamiltonian paths, linear and planar graphs, labeled trees and other topics on graphs; many of them are presented as exercises.
Modeling: Linear recurrence relations, Fibonacci rabbits, population growth, tree growth, epidemic spread and reinfections, resonances and nuclear reactors, predator-prey relationships and stopping times.
Elementary number theory: Residues, finite fields, Pisano periods, quadratic reciprocity, Pell's equation, continued fractions, and Frobenius coin problem. Applications to cryptography, designs and magic squares, error-correcting codes and nonattacking queens.

Contents
Dominos and Magic Squares • Permutations and Combinations • Binomial Coefficients and Applications • Linear Recurrences • Modular Arithmetic • Graphs and Catalan Numbers • Review Assignments • Card Games as Cognitive Models

Readership: Undergraduate and graduate students. The book is suitable for college-university courses in combinatorics-modeling for beginners and for introductory courses in number theory. It can serve as core & reference textbook in these fields and their applications.

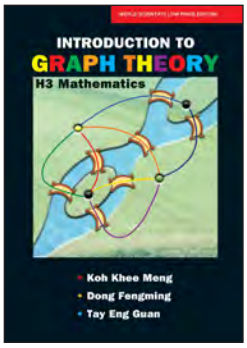


Graph Theory
In Mathematical Olympiad and Competitions
By Bin Xiong & Zhongyi Zheng
ISBN 9798886130331 • PB • 156pp
Original Price US$34
Indian Edition at Rs 1195 • Year 2024

In 1736, the mathematician Euler invented graph theory while solving the Konigsberg seven-bridge problem. Over 200 years later, graph theory remains the skeleton content of discrete mathematics, which serves as a theoretical basis for computer science and network information science. This book introduces some basic knowledge and the primary methods in graph theory by many interesting problems and games.

Contents
- Definition of Graph
- Degree of a Vertex
- Turán's Theorem
- Tree
- Euler's Problem
- Hamilton's Problem
- Planar Graph
- Ramsey's Problem
- Tournament

Readership: High-school mathematics students and teachers, coaches of mathematical olympiads, undergraduates and graduates in mathematics, non-experts interested in mathematical competitions.



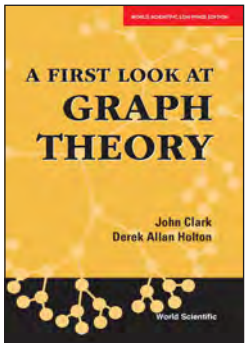
Introduction to Graph Theory
H3 Mathematics
By Koh Khee Meng *et al.*
ISBN 9781944659905 • PB • 244pp
Original Price US$83
Indian Edition at Rs 1195 • Year 2022

Graph theory is an area in discrete mathematics which studies configurations (called graphs) involving a set of vertices interconnected by edges. This book is intended as a general introduction to graph theory and, in particular, as a resource book for junior college students and teachers reading and teaching the subject at H3 Level in the new Singapore mathematics curriculum for junior college.

The book builds on the verity that graph theory at this level is a subject that lends itself well to the development of mathematical reasoning and proof.

Contents
- Fundamental Concepts and Basic Results
- Graph Isomorphisms, Subgraphs, the Complement of a Graph
- Bipartite Graphs and Trees
- Vertex-Colourings of Graphs
- Matchings in Bipartite Graphs
- Eulerian Multigraphs & Hamiltonian Graphs Digraphs and Tournaments

Readership: Junior college students and undergraduates studying mathematics and computer science.

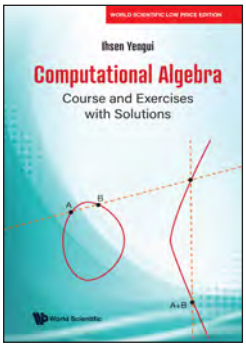


A First Look at Graph Theory
By John Clark & Derek Allan Holton
ISBN 9780000989284 • PB • 348pp
Original Price US$49
Indian Edition at Rs 1395 • Year 2023

This book is intended to be an introductory text for mathematics and computer science students at the second and third year levels in universities. It gives an introduction to the subject with sufficient theory for students at those levels, with emphasis on algorithms and applications.

Contents
- An Introduction to Graphs
- Trees and Connectivity
- Euler Tours and Hamiltonian Cycles
- Matchings
- Planar Graphs
- Colouring
- Directed Graphs
- Networks
- Ramsey Theory
- Reconstruction

Readership: Undergraduates in mathematics and computer science.



Computational Algebra
Course and Exercises with Solutions
By Ihsen Yengui
ISBN 9798886130522 • PB • 284pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2024

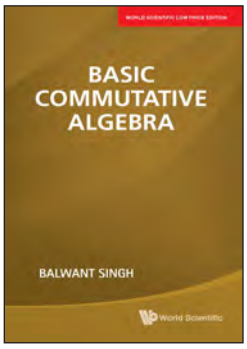
This book intends to provide material for a graduate course on computational commutative algebra and algebraic geometry, highlighting potential applications in cryptography. Also, the topics in this book could form the basis of a graduate course that acts as a segue between an introductory algebra course and the more technical topics of commutative algebra and algebraic geometry.

This book contains a total of 124 exercises with detailed solutions as well as an important number of examples that illustrate definitions, theorems, and methods. This is very important for students or researchers who are not familiar with the topics discussed. Experience has shown that beginners who want to take their first steps in algebraic geometry are usually discouraged by the difficulty of the proposed exercises and the absence of detailed answers. Therefore, exercises (and their solutions) as well as examples occupy a prominent place in this course.

This book is not designed as a comprehensive reference work, but rather as a selective textbook. The many exercises with detailed answers make it suitable for use in both a math or computer science course.

Contents
- Introduction
- Gröbner Bases Over Arithmetical Rings
- Varieties, Ideals, and Gröbner Bases
- Finite Fields and Field Extensions
- Algorithms for Cryptography
- Algebraic Plane Curves
- Elliptic Curves
- Index
- Bibliography

Readership: Postgraduates, advanced undergraduates, academics and researchers of mathematics.



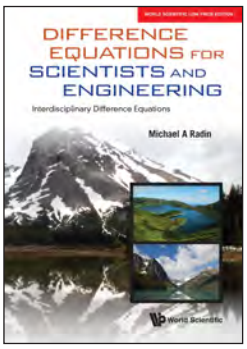
Basic Commutative Algebra
By Balwant Singh
ISBN 9781944659936 • PB • 404pp
Original Price US$46
Indian Edition at Rs 1495 • Year 2022

This textbook, set for a one or two semester course in commutative algebra, provides an introduction to commutative algebra at the postgraduate and research levels. The main prerequisites are familiarity with groups, rings and fields. Proofs are self-contained.

The book will be useful to beginners and experienced researchers alike. The material is so arranged that the beginner can learn through self-study or by attending a course. For the experienced researcher, the book may serve to present new perspectives on some well-known results, or as a reference.

Contents
- Rings and Ideals
- Modules and Algebras
- Polynomial and Power Series Ring
- Homological Tools I
- Tensor, Symmetric and Exterior Algebras
- Finiteness Conditions
- Primary Decomposition
- Filtrations and Completions
- Numerical Functions
- Principal Ideal Theorem
- Integral Extensions
- Normal Domains
- Transcendental Extensions
- Affine Algebras
- Derivations and Differentials
- Valuation Rings and Valuations
- Homological Tools II
- Homological Dimensions
- Depth
- Regular Rings
- Divisor Class Groups

Readership: Students and researchers in mathematics at the graduate level.



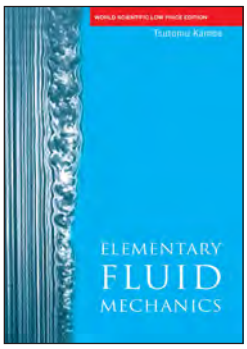
Difference Equations for Scientists and Engineering
Interdisciplinary Difference Equations
By Michael A Radin
ISBN 9780000988553 • PB • 332pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2020

We introduce interdisciplinary research and get students and the audience familiarized with the difference equations: solving them explicitly, determining the long-term behavior of solutions (convergence, boundedness and periodicity).

We help to develop intuition in analyzing convergence of solutions in terms of subsequences and analyzing patterns of periodic cycles. Our book helps you learn applications in biology, economics and business, computer science and engineering.

Contents
- Introduction
- First Order Linear Difference Equations
- First Order Nonlinear Difference Equations
- Second Order Linear Difference Equations
- Second Order Nonlinear Difference Equations
- Advanced Characteristics and New Research Questions
- Answers to Selected Odd-Numbered Problems.

Readership: Students and researchers in mathematics, physics, science and engineering.



Elementary Fluid Mechanics
By Tsutomu Kambe
ISBN 9781944659929 • PB • 404pp
Original Price US$53
Indian Edition at Rs 1395 • Year 2024

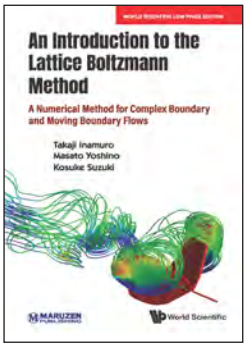
This textbook describes the fundamental "physical" aspects of fluid flows for beginners of fluid mechanics in physics, mathematics and engineering, from the point of view of modern physics.

It also emphasizes the dynamical aspects of fluid motions rather than the static aspects, illustrating vortex motions, waves, geophysical flows, chaos and turbulence. Beginning with the fundamental concepts of the nature of flows and the properties of fluids, the book presents fundamental conservation equations of mass, momentum and energy, and the equations of motion for both inviscid and viscous fluids.

In addition to the fundamentals, this book also covers water waves and sound waves, vortex motions, geophysical flows, nonlinear instability, chaos, and turbulence. Furthermore, it includes the chapters on superfluids and the gauge theory of fluid flows.

Contents
Flows • Fluids • Fundamental Equations of Ideal Fluids • Viscous Fluids • Flows of Ideal Fluids • Water Waves and Sound Waves • Vortex Motions • Geophysical Flows • Instability and Chaos • Turbulence • Superfluid and Quantized Circulation • Gauge Theory of Ideal Fluid Flows • Appendices: Vector Analysis • Velocity Potential, Stream Function • Ideal Fluid and Ideal Gas • Curvilinear Reference Frames: Differential Operators • First Three Structure Functions • Lagrangians

Readership: Undergraduate & postgraduate students in physics, mathematics, and engineering as well as scientists & engineers who are not specialists in fluid mechanics.



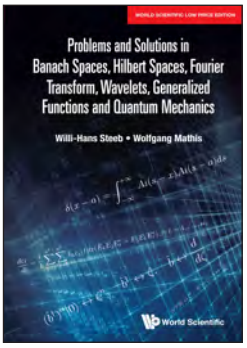
An Introduction to the Lattice Boltzmann Method
A Numerical Method for Complex Boundary and Moving Boundary Flows
By Takaji Inamuro, Masato Yoshino, *et al.*
ISBN 9781944660246 • PB • 168pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2022

The book introduces the fundamentals and applications of the lattice Boltzmann method (LBM) for incompressible viscous flows. It is written clearly and easy to understand for graduate students and researchers.

The book is organized as follows. In Chapter 1, the SRT- and MRT-LBM schemes are derived from the discrete Boltzmann equation for lattice gases and the relation between the LBM and the Navier-Stokes equation is explained by using the asymptotic expansion (not the Chapman-Enskog expansion). Chapter 2 presents the lattice kinetic scheme (LKS) which is an extension method of the LBM and can save memory because of needlessness for storing the velocity distribution functions. In addition, an improved LKS which can stably simulate high Reynolds number flows is presented. In Chapter 3, the LBM combined with the immersed boundary method (IB-LBM) is presented. The IB-LBM is well suitable for moving boundary flows. In Chapter 4, the two-phase LBM is explained from the point of view of the difficulty in computing two-phase flows with large density ratio. Then, a two-phase LBM for large density ratios is presented. In Appendix, sample codes (available for download) are given for users.

Contents
Lattice Boltzmann Method (LBM) • Lattice Kinetic Scheme • Immersed Boundary–Lattice Boltzmann Method (IB-LBM) • Two-Phase Lattice Boltzmann Method (Two-Phase LBM) • Appendices: Definitions of Dimensionless Variables • D3Q19 and D3Q27 Models • LBM with the MRT Model (MRT-LBM) • Summation Formulae of Particle Velocities ci • Lattice Units • Program Examples • Afterword • Bibliography

Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of fluid mechanics, engineering, computer science, and physics.



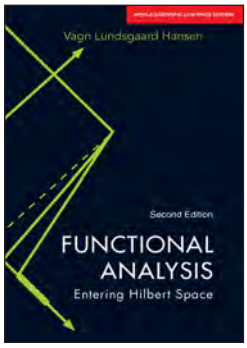
Problems and Solutions in Banach Spaces, Hilbert Spaces, Fourier Transform, Wavelets, Generalized Functions and Quantum Mechanics
By Willi-Hans Steeb and Wolfgang Mathis
ISBN 9781944660734 • PB • 456pp
Original Price US$68
Indian Edition at Rs 1895 • Year 2023

This book presents a collection of problems and solutions in functional analysis with applications to quantum mechanics. Emphasis is given to Banach spaces, Hilbert spaces and generalized functions.

The material of this volume is self-contained, whereby each chapter comprises an introduction with the relevant notations, definitions, and theorems. The approach in this volume is to provide students with instructive problems along with problem-solving strategies. Programming problems with solutions are also included.

Contents
- Normed Spaces and Banach Spaces
- Hilbert Spaces
- Finite Dimensional Hilbert Spaces
- Hilbert Space $L_2(\Omega)$
- Hilbert Space $\ell_2(\mathrm{II})$
- Fourier Transform
- Wavelets
- Holomorphic Entire Functions and Hilbert Space
- Generalized Functions
- Quantum Mechanics

Readership: Advanced undergraduate, graduate and post-graduate students in mathematics and theoretical physics. The book is also suitable for those taking courses in functional analysis and quantum theory.



Functional Analysis, 2nd Edition
Entering Hilbert Space
By Vagn Lundsgaard Hansen
ISBN 9780000988690 • PB • 192pp
Original Price US$45
Indian Edition at Rs 1195 • Year 2020

This book presents basic elements of the theory of Hilbert spaces and operators on Hilbert spaces, culminating in a proof of the spectral theorem for compact, self-adjoint operators on separable Hilbert spaces. It exhibits a construction of the space of pth power Lebesgue integrable functions by a completion procedure with respect to a suitable norm in a space of continuous functions, including proofs of the basic inequalities of Hölder and Minkowski. The Lp-spaces thereby emerges in direct analogy with a construction of the real numbers from the rational numbers. This allows grasping the main ideas more rapidly. Other important Banach spaces arising from function spaces and sequence spaces are also treated.

In this *second edition*, I have expanded the material on normed vector spaces and their operators presented in Chapter 1 to include proofs of the Open Mapping Theorem, the Closed Graph Theorem and the Hahn–Banach Theorem. The material on operators between normed vector spaces is further expanded in a new Chapter 6, which presents the basic elements of the theory of Fredholm operators on general Banach spaces, not only on Hilbert spaces. This requires that we develop the theory of dual operators between Banach spaces to replace the use of adjoint operators between Hilbert spaces.

With the addition of the new material on normed vector spaces and their operators, the book can serve as a general introduction to functional analysis viewed as a theory of infinite dimensional linear spaces and linear operators acting on them.

Contents
Basic Elements of Metric Topology • New Types of Function Spaces • Theory of Hilbert Spaces • Operators on Hilbert Spaces • Spectral Theory • Fredholm Theory • Exercises

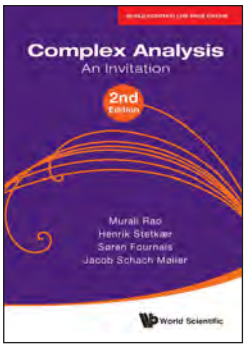
Readership: Undergraduates in mathematical & physical sciences, & mechanical, electrical & electronic engineering.

Complex Function Theory
By Takeo Fujiwara
ISBN 9798886130690 • PB • 292pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2024

The basics of complex functions will be explained for students of Engineering Sciences, with the aim of being able to use "complex function theory" as a tool. The goal is not rigor as mathematics, but ease of use that may suit the application. Explanations are based on concrete examples rather than abstract general theory. The book starts from very beginning of complex numbers, and extends theory of Introduction to Elliptic Function and Hypergeometric Differential Equations.

Contents
- Preface
- Complex Numbers and Functions
- Complex Functions and Holomorphic
- Elementary Functions
- Conformal Transformation
- Singularities
- Complex Integrals
- Cauchy's Integral Formula and Power Series Expansion of Complex Functions
- Advanced Complex Integrals
- Analytic Continuation and Riemann Surface
- Meromorphic Functions
- Elliptic Integrals and Elliptic Functions
- Ordinary Differential Equations of Complex Variables
- Orthogonal Polynomials
- Functions Written With Hypergeometric Functions
- Functions Written With Confluent Hypergeometric Functions
- Bibliography
- Index

Readership: Undergraduate students majoring in engineering and other mathematical sciences.

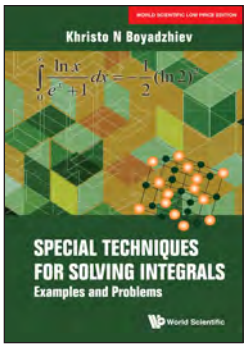


Complex Analysis, 2nd Edition
An Invitation
By Murali Rao, *et al.*
ISBN 9781944659943 • PB • 424pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2024

This volume is an enlarged edition of a classic textbook on complex analysis. In addition to the classical material of the first edition it provides a concise and accessible treatment of Loewner theory, both in the disc and in the half-plane. Some of the new material has been described in research papers only or appears here for the first time. Each chapter ends with exercises.

Contents
- Power Series
- Holomorphic and Analytic Functions
- Exponential Function, Logarithm and Winding Number
- Basic Theory of Holomorphic Functions
- Global Theory
- Isolated Singularities
- The Picard Theorems
- Geometric Aspects and the Riemann Mapping Theorem
- Meromorphic Functions and Runge's Theorems
- Representations of Meromorphic Functions
- The Prime Number Theorem
- Harmonic Functions
- Subharmonic Functions
- Various Applications
- Jordan Regions
- The Dirichlet Problem and Green's Functions
- Extending Riemann Maps to the Boundary
- Carathéodory Convergence
- Capacities
- Loewner Theory

Readership: Advanced undergraduates and graduate students of mathematics including mathematicians interested in Loewner theory.



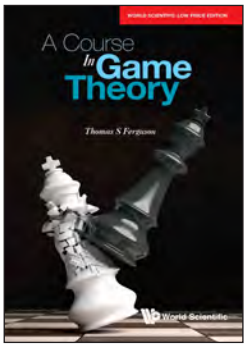
Special Techniques for Solving Integrals
Examples and Problems
By Khristo N Boyadzhiev
ISBN 9781944660666 • PB • 400pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2023

This volume contains techniques of integration which are not found in standard calculus and advanced calculus books. It can be considered as a map to explore many classical approaches to evaluate integrals. It is intended for students and professionals who need to solve integrals or like to solve integrals and yearn to learn more about the various methods they could apply. Undergraduate and graduate students whose studies include mathematical analysis or mathematical physics will strongly benefit from this material. Mathematicians involved in research and teaching in areas related to calculus, advanced calculus and real analysis will find it invaluable.

The volume contains numerous solved examples and problems for the reader. These examples can be used in classwork or for home assignments, as well as a supplement to student projects and student research.

Contents
- Preface
- About the Author
- Special Substitutions
- Solving Integrals by Differentiation with Respect to a Parameter
- Solving Logarithmic Integrals by Using Fourier Series
- Evaluating Integrals by Laplace and Fourier Transforms. Integrals Related to Riemann's Zeta Function
- Various Techniques
- Appendix A. List of Solved Integrals
- References
- Index

Readership: Graduate and undergraduate students, professors and researchers in mathematics related to calculus, advanced calculus, mathematical analysis, real analysis, and mathematical physics; physics, and engineering.



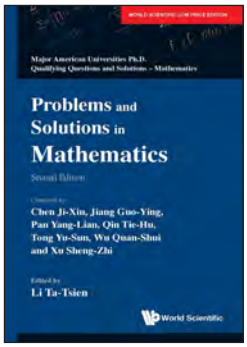
A Course in Game Theory
By Thomas S Ferguson
ISBN 9781944660970 • PB • 408pp
Original Price US$88
Indian Edition at Rs 1495 • Year 2024

Game theory is a fascinating subject. The competition between firms, the conflict between management and labor, the fight to get bills through congress, the power of the judiciary, war and peace negotiations between countries, and so on, all provide examples of games in action. There are also psychological games played on a personal level, where the weapons are words, and the payoffs are good or bad feelings [Berne (1964)]. There are biological games, the competition between species, where natural selection can be modeled as a game played between genes [Smith (1982)]. There is a connection between game theory and the mathematical areas of logic and computer science.

Games are characterized by a number of players or decision makers who interact, possibly threaten each other and form coalitions, take actions under uncertain conditions, and finally receive some benefit or reward or possibly some punishment or monetary loss. In this text, we present various mathematical models of games and study the phenomena that arise. In some cases, we will be able to suggest what courses of action should be taken by the players. In others, we hope simply to be able to understand what is happening in order to make better predictions about the future.

Contents
- Preface
- Introduction
- Impartial Combinatorial Games
- Two-Person Zero-Sum Games
- Two-Person General-Sum Games
- Games in Coalitional Form
- Appendices
- Solutions to Exercises of Part I: (Chapter 1 to Chapter 6)

Readership: Students in mathematical economics / game theory / econometrics.



Problems and Solutions in Mathematics, 2nd Edition
By Li Ta-Tsien *et al.*
ISBN 9781944660116 • PB • 804pp
Original Price US$82
Indian Edition at Rs 1795 • Year 2022

This book contains a selection of more than 500 mathematical problems and their solutions from the PhD qualifying examination papers of more than ten famous American universities. The mathematical problems cover six aspects of graduate school mathematics: Algebra, Topology, Differential Geometry, Real Analysis, Complex Analysis and Partial Differential Equations. While the depth of knowledge involved is not beyond the contents of the textbooks for graduate students, discovering the solution of the problems requires a deep understanding of the mathematical principles plus skilled techniques. For students, this book is a valuable complement to textbooks. Whereas for lecturers teaching graduate school mathematics, it is a helpful reference.

Contents
Algebra: Linear Algebra • Group Theory • Ring Theory • Field and Galois Theory

Topology: Point Set Topology • Homotopy Theory • Homology Theory

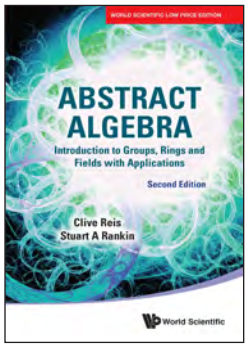
Differential Geometry: Differential Geometry of Curves • Differential Geometry of Surfaces • Differential Geometry of Manifolds

Real Analysis: Measurability and Measure • Integral • Space of Integrable Functions • Differential • Miscellaneous Problems

Complex Analysis: Analytic and Harmonic Functions • Geometry of Analytic Functions • Complex Integration • The Maximum Modulus and Argument Principles • Series and Normal Families

Partial Differential Equations: General Theory • Elliptic Equations • Parabolic Equations • Hyperbolic Equations

Readership: PhD mathematics students and lecturers.

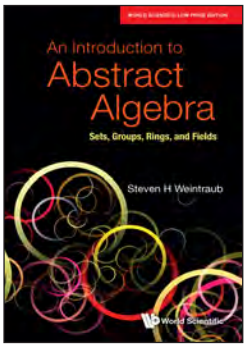


Abstract Algebra, 2nd Edition
Introduction to Groups, Rings and Fields with Applications
By Clive Reis and Stuart A Rankin
ISBN 9798886130133 • PB • 576pp
Original Price US$68
Indian Edition at Rs 1795 • Year 2024

The presentation of the material has been extensively revised and improved in the second edition. There are two new chapters, one dealing with the fundamental theorem of finitely generated abelian groups and the other a brief introduction to semigroup theory and automata. In addition, the book contains several applications: Polya–Burnside Enumeration, Mutually Orthogonal Latin Squares, Error-Correcting Codes, and a classification of the finite groups of isometries of the plane and the finite rotation groups in Euclidean 3-space, semigroups and automata. Considerable emphasis is placed on the algebraic system consisting of the congruence classes mod n under the usual operations of addition and multiplication. The reader is thus introduced — via congruence classes — to the idea of cosets and factor groups. This enables the transition to cosets and factor objects to be relatively painless.

Contents
Logic and Proofs • Set Theory • Cartesian Products, Relations, Maps and Binary Operations • The Integers • Groups • Further Properties of Groups • The Symmetric Groups • Rings, Integral Domains and Fields • Polynomial Rings • Field Extensions • Latin Squares and Magic Squares • Group Actions, the Class Equation, and the Sylow Theorems • Finitely Generated Abelian Groups • Semigroups and Automata • Isometries • Pólya-Burnside Enumeration • Group Codes • Polynomial Codes • Appendix A: Rational, Real, and Complex Numbers • Appendix A: Linear Algebra

Readership: Undergraduates from approximately 2nd to 4th year. Familarity with linear algebra is required.



An Introduction to Abstract Algebra
Sets, Groups, Rings, and Fields
By Steven H Weintraub
ISBN 9798886130928 • PB • 438pp
Original Price US$78
Indian Edition at Rs 1495 • Year 2024

This book is a textbook for a semester-long or year-long introductory course in abstract algebra at the upper undergraduate or beginning graduate level.

It treats set theory, group theory, ring and ideal theory, and field theory (including Galois theory), and culminates with a treatment of Dedekind rings, including rings of algebraic integers.

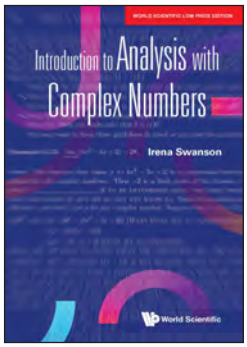
In addition to treating standard topics, it contains material not often dealt with in books at this level. It provides a fresh perspective on the subjects it covers, with, in particular, distinctive treatments of factorization theory in integral domains and of Galois theory.

As an introduction, it presupposes no prior knowledge of abstract algebra, but provides a well-motivated, clear, and rigorous treatment of the subject, illustrated by many examples. Written with an eye toward number theory, it contains numerous applications to number theory (including proofs of Fermat's theorem on sums of two squares and of the Law of Quadratic Reciprocity) and serves as an excellent basis for further study in algebra in general and number theory in particular.

Each of its chapters concludes with a variety of exercises ranging from the straightforward to the challenging in order to reinforce students' knowledge of the subject. Some of these are particular examples that illustrate the theory while others are general results that develop the theory further.

Contents
Set Theory • Group Theory • Ring Theory • Field Theory • Rings of Algebraic Integers and Dedekind Rings • Appendices

Readership: Advanced undergraduate and beginning graduate students in mathematics, suitable for introductory abstract algebra course in general, and particularly suitable for such a course with an orientation toward number theory.



Introduction to Analysis with Complex Numbers
By Irena Swanson
ISBN 9781944660086 • PB • 456pp
Original Price US$68
Indian Edition at Rs 1495 • Year 2022

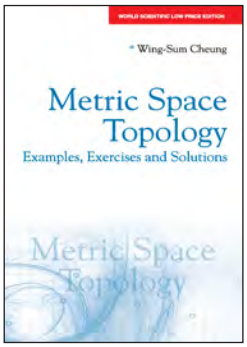
This is a self-contained book that covers the standard topics in introductory analysis and that in addition constructs the natural, rational, real and complex numbers, and also handles complex-valued functions, sequences, and series.

The book teaches how to write proofs. Fundamental proof-writing logic is covered in Chapter 1 and is repeated and enhanced in two appendices. Many examples of proofs appear with words in a different font for what should be going on in the proof writer's head.

The book contains many examples and exercises to solidify the understanding. The material is presented rigorously with proofs and with many worked-out examples. Exercises are varied, many involve proofs, and some provide additional learning materials.

Contents
- How We will Do Mathematics
- Concepts with Which We will Do Mathematics
- Construction of the Basic Number Systems
- Limits of Functions
- Continuity
- Differentiation
- Integration
- Sequences
- Infinite Series and Power Series
- Exponential and Trigonometric Functions
- Appendix A: Advice on Writing Mathematics
- Appendix B: What One Should Never Forget

Readership: Introduction to proofs and analysis on real and complex functions for undergraduates.



Metric Space Topology
Examples, Exercises and Solutions
By Wing-Sum Cheung
ISBN 9798886130874 • PB • 444pp
Original Price US$148
Indian Edition at Rs 1495 • Year 2024

This introductory book contains a rich collection of exercises and worked examples in Metric Spaces. Other than questions in the traditional setting, plenty of True-or-False type questions and open-ended questions are included. With detailed solutions, these are highly effective in helping students gain a bird's eye view and master the subject and pitfalls better. The presentation is clear in nurturing the mathematical insights and mathematical maturity of the readers.

In this book, the pictorialization or visualization of abstract situations into simple pictures is very often crucially conducive to the understanding of the materials. This serves to give an insightful view of the intricate problems, as well as a clue or a direction to formulate rigorous arguments.

Contents
Metric Spaces:
- Definitions and Examples
- Topology of Metric Spaces
- Compactness
- Compactness in the Euclidean Space $\mathbb{R}^n$

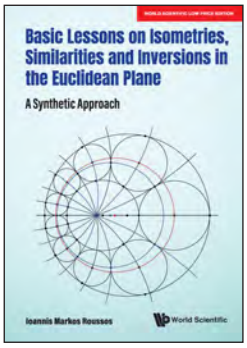
Limits and Continuity:
- Convergence in a Metric Space
- Complete Metric Spaces

Connectedness:
- Connectedness
- Path-connectedness

Uniform Continuity:
- Uniform Continuity
- Contraction and Banach's Fixed Point Theorem

Uniform Convergence:
- Sequence of Functions
- Series of Functions

Readership: Advanced undergraduate students and fresh graduate students in mathematics, physics, engineering, economics and finance. Suitable for an introductory course in Topology and Mathematical Analysis.



Basic Lessons on Isometries, Similarities and Inversions in the Euclidean Plane
A Synthetic Approach
By Ioannis Markos Roussos
ISBN 9781944660482 • PB • 500pp
Original Price US$78
Indian Edition at Rs 2550 • Year 2023

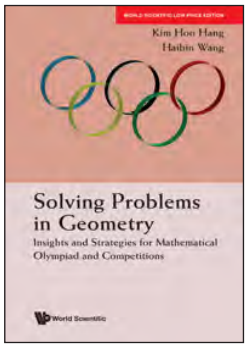
The aim of this book is to provide a complete synthetic exposition of plane isometries, similarities and inversions to readers who are interested in studying, teaching, and using this material.

The topics developed in this book can provide new proofs and solutions to many results and problems of classical geometry, which are presented with different proofs in the literature. Their applications are numerous and some, such as the Steiner Chains and Point, are useful to engineers.

The book contains many good examples, important applications and numerous exercises of various level and difficulty, which are classified in the three groups of: general exercises, geometrical constructions, and geometrical loci. Some lengthy exercises or groups of related exercises can be viewed as projects. On the basis of the above, this book, besides Classical Geometry, is an important addition to Mathematics Education.

Contents
- Biography
- Acknowledgements
- Prologue
- Some Preliminaries
- Isometries
- Exercises on Isometries
- Similarities
- Exercises on Similarities
- The Transformation of Inversion
- Exercises on Circles
- Exercises on Radical Axis
- Exercises on Inversion
- Bibliography
- Index

Readership: College and high school students in mathematics, computational geometry, computational sciences.



Solving Problems in Geometry
Insights and Strategies for Mathematical Olympiad and Competitions
By Kim Hoo Hang & Haibin Wang
ISBN 9780000990471 • PB • 356pp
Original Price US$34
Indian Edition at Rs 1595 • Year 2025

"This book is a useful reference for faculty members involved in contest preparation or teaching Euclidean geometry at the college level."

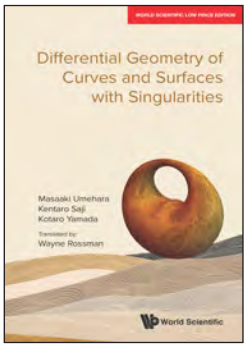
— MAA Reviews

This new volume of the Mathematical Olympiad Series focuses on the topic of geometry. Basic and advanced theorems commonly seen in Mathematical Olympiad are introduced and illustrated with plenty of examples. Special techniques in solving various types of geometrical problems are also introduced, while the authors elaborate extensively on how to acquire an insight and develop strategies in tackling difficult geometrical problems.

This book is suitable for any reader with elementary geometrical knowledge at the lower secondary level. Each chapter includes sufficient scaffolding and is comprehensive enough for the purpose of self-study. Readers who complete the chapters on the basic theorems and techniques would acquire a good foundation in geometry and may attempt to solve many geometrical problems in various mathematical competitions. Meanwhile, experienced contestants in Mathematical Olympiad competitions will find a large collection of problems pitched at competitions at the international level, with opportunities to practise and sharpen their problem-solving skills in geometry.

Contents
- Congruent Triangles
- Similar Triangles
- Circles and Angles
- Circles and Lines
- Basic Facts and Techniques in Geometry
- Geometry Problems in Competitions

Readership: Students, educators and general public interested in geometry and topology.



Differential Geometry of Curves and Surfaces with Singularities
By Masaaki Umehara, *et al.*
ISBN 9781944660451 • PB • 388pp
Original Price US$128
Indian Edition at Rs 1595 • Year 2023

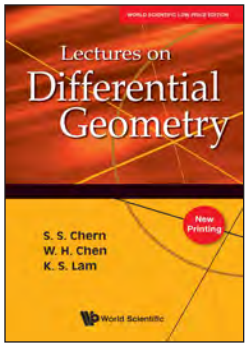
This book provides a unique and highly accessible approach to singularity theory from the perspective of differential geometry of curves and surfaces. It is written by three leading experts on the interplay between two important fields — singularity theory and differential geometry.

The book introduces singularities and their recognition theorems, and describes their applications to geometry and topology, restricting the objects of attention to singularities of plane curves and surfaces in the Euclidean 3-space. The book also elucidates the notion of Riemannian manifolds with singularities.

These topics, as well as elementary descriptions of proofs of the recognition theorems, cannot be found in other books. Explicit examples and models are provided in abundance, along with insightful explanations of the underlying theory as well. Numerous figures and exercise problems are given, becoming strong aids in developing an understanding of the material.

Readers will gain from this text a unique introduction to the singularities of curves and surfaces from the viewpoint of differential geometry, and it will be a useful guide for students and researchers interested in this subject.

Contents
- Planar Curves and Singular Points
- Singularities of Surfaces
- Proofs of Criteria for Singularities
- Applications of Criteria for Singularities
- Singular Curvature
- Gauss–Bonnet Type Formulas and Applications
- Flat Surfaces in R^3
- Proof of the Criterion for Swallowtails
- Coherent Tangent Bundles
- Contact Structure and Wave Fronts
- Appendices
- Index

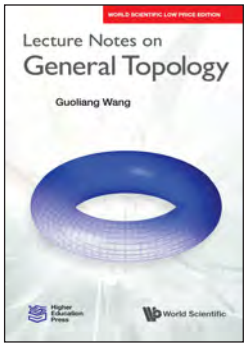


Lectures on Differential Geometry
By S S Chern *et al.*
ISBN 9781944659899 • PB • 368pp
Original Price US$34
Indian Edition at Rs 1395 • Year 2022

This book is a translation of an authoritative introductory text based on a lecture series delivered by the renowned differential geometer, Professor S S Chern in Beijing University in 1980. The original Chinese text, authored by Professor Chern and Professor Wei-Huan Chen, was a unique contribution to the mathematics literature, combining simplicity and economy of approach with depth of contents. The present translation is aimed at a wide audience, including (but not limited to) advanced undergraduate and graduate students in mathematics, as well as physicists interested in the diverse applications of differential geometry to physics. In addition to a thorough treatment of the fundamentals of manifold theory, exterior algebra, the exterior calculus, connections on fiber bundles, Riemannian geometry, Lie groups and moving frames, and complex manifolds (with a succinct introduction to the theory of Chern classes), and an appendix on the relationship between differential geometry and theoretical physics, this book includes a new chapter on Finsler geometry and a new appendix on the history and recent developments of differential geometry, the latter prepared specially for this edition by Professor Chern to bring the text into perspectives.

Contents
- Differentiable Manifolds
- Multilinear Algebra
- Exterior Differential Calculus
- Connections
- Riemannian Geometry
- Lie Groups and Moving Frames
- Complex Manifolds
- Finsler Geometry
- Historical Notes
- Differential Geometry and Theoretical Physics

Readership: Undergraduates, graduates and researchers in pure mathematics and mathematical physics.



Lecture Notes On General Topology
By Guoliang Wang
ISBN 9780000990433 • PB • 152pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2021

This book is intended as a one-semester course in general topology, a.k.a. point-set topology, for undergraduate students as well as first-year graduate students. Such a course is considered a prerequisite for further studying analysis, geometry, manifolds, and certainly, for a career of mathematical research. Researchers may find it helpful especially from the comprehensive indices.

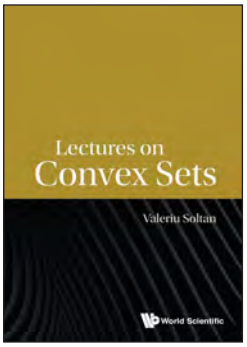
General topology resembles a language in modern mathematics. Because of this, the book is with a concentration on basic concepts in general topology, and the presentation is of a brief style, both concise and precise. Though it is hard to determine exactly which concepts therein are basic and which are not, the author makes efforts in the selection according to personal experience on the occurrence frequency of notions in advanced mathematics, and to related books that have received admirable reviews.

This book also contains exercises for each chapter with selected solutions.

Interrelationships among concepts are taken into account frequently. Twelve particular topological spaces are repeatedly exploited, which serve as examples to learn new concepts based on old ones.

Contents
- Introduction
- Topological Spaces
- Continuous Maps and Homeomorphisms
- Connectedness
- Separation and Countability Axioms
- Compactness
- Product Spaces and Quotient Spaces
- Appendix: Some Elementary Inequalities
- Bibliography
- Author Index
- Subject Index

Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of topology.



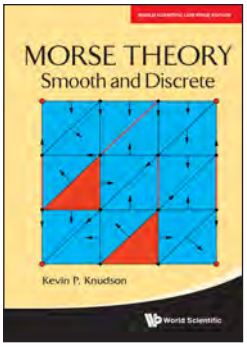
Lectures on Convex Sets
By Valeriu Soltan
ISBN 9789814656696 • PB • 416pp
Original Price US$58
Indian Edition at Rs 1195 • Year 2015

This book provides a systematic treatment of algebraic and topological properties of convex sets (possibly non-closed or unbounded) in the n-dimensional Euclidean space. Topics under consideration include general properties of convex sets and convex hulls, cones and conic hulls, polyhedral sets, the extreme structure, support and separation properties of convex sets.

Lectures on Convex Sets is self-contained and unified in presentation. The book grew up out of various courses on geometry and convexity, taught by the author for more than a decade. It can be used as a textbook for graduate students and even ambitious undergraduates in mathematics, optimization, and operations research. It may also be viewed as a supplementary book for a course on convex geometry or convex analysis, or as a source for independent study of the subject, suitable for non-geometers.

Contents
- The Affine Structure of $\mathbb{R}^n$
- Convex Sets
- Convex Hulls
- Convex Cones and Conic Hulls
- Recession and Normal Directions
- Support and Separation Properties
- The Extreme Structure of Convex Sets
- The Exposed Structure of Convex Sets
- Polyhedra

Readership: Graduate students in mathematics, optimization and operations research.



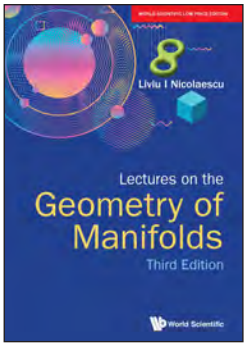
Morse Theory
Smooth and Discrete
By Kevin P Knudson
ISBN 9781944660871 • PB • 196pp
Original Price US$65
Indian Edition at Rs 1195 • Year 2023

Morse Theory: Smooth and Discrete serves as an introduction to classical smooth Morse theory and to Forman's discrete Morse theory, highlighting the parallels between the two subjects. This is the first time both smooth and discrete Morse theory have been treated in a single volume. This makes the book a valuable resource for students and professionals working in topology and discrete mathematics. With a strong focus on examples, the text is suitable for advanced undergraduates or beginning graduate students.

Contents

- **Smooth Morse Theory:**
  - First Steps
  - Fundamental Results in Morse Theory
  - Topological Consequences
  - Homology
  - Piecewise Linear Morse Theory
- **Discrete Morse Theory:**
  - First Steps
  - Topological Consequences
  - Algorithms
  - Applications
- **Appendices:**
  - Smooth Manifolds
  - Cell Complexes

Readership: Graduate students in geometry and topology.



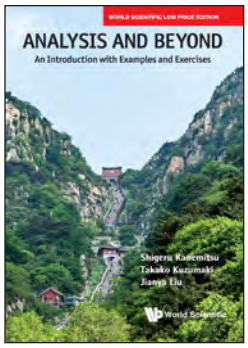
Lectures on the Geometry of Manifolds, 3rd Edition
By Liviu I Nicolaescu
ISBN 9780000990334 • PB • 700pp
Original Price US$98
Indian Edition at Rs 2195 • Year 2021

The goal of this book is to introduce the reader to some of the main techniques, ideas and concepts frequently used in modern geometry. It starts from scratch and it covers basic topics such as differential and integral calculus on manifolds, connections on vector bundles and their curvatures, basic Riemannian geometry, calculus of variations, DeRham cohomology, integral geometry (tube and Crofton formulas), characteristic classes, elliptic equations on manifolds and Dirac operators. The new edition contains a new chapter on spectral geometry presenting recent results which appear here for the first time in printed form.

Contents

- Manifolds
- Natural Constructions on Manifolds
- Calculus on Manifolds
- Riemannian Geometry
- Elements of the Calculus of Variations
- The Fundamental Group and Covering Spaces
- Cohomology
- Characteristic Classes
- Classical Integral Geometry
- Elliptic Equations on Manifolds
- Spectral Geometry
- Dirac Operators

Readership: Graduate students and researchers in global analysis, differential geometry.

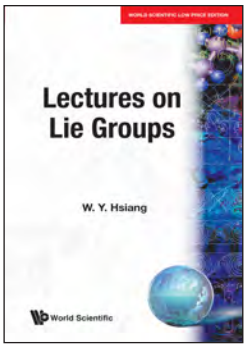


Analysis and Beyond
An Introduction with Examples and Exercises
By Shigeru Kanemitsu *et al.*
ISBN 9780000990419 • PB • 328pp
Original Price US$88
Indian Edition at Rs 1695 • Year 2021

This volume aims to bridge between elementary textbooks on calculus and established books on advanced analysis. It provides elucidation of the reversible process of differentiation and integration through two featured principles: the chain rule and its inverse — the change of variable — as well as the Leibniz rule and its inverse — the integration by parts. The chain rule or differentiation of composite functions is ubiquitous since almost all (a.a.) functions are composite functions of (elementary) functions and with the change of variable method as its reverse process. The Leibniz rule or differentiation of the product of two functions is essential since it makes differentiation nonlinear & with the method of integration by parts as its reverse process.
Readers will find numerous worked-out examples and exercises in this volume. Detailed solutions are provided for most of the common exercises so that readers remain enthusiastically motivated in solving and understanding the concepts better.
The intention of this volume is to lead the reader into the rich fields of advanced analysis and to obtain a much better view of useful mathematics.

Contents
Continuity of Real Numbers • Limits and Continuity • Properties of Continuous Mappings • Differentiation • Properties of Differentiable Functions • Extremal Values, Mean Value Theorems and Taylor Expansions in One Variable • Extremal Values, Mean Value Theorems and Taylor Expansion in Several Variables • Algorithms • Theory of Riemann–Stieltjes Integration • Theory of Riemann Integration • Limit Values and Summability • ODE and FDE • Vector Analysis • Theory of Distributions • Topological Spaces • Appendices

Readership: University students who want to know what analysis is, and researchers in various disciplines who want to have a glimpse of analysis for possible applications to their own fields. Also useful for self-study.

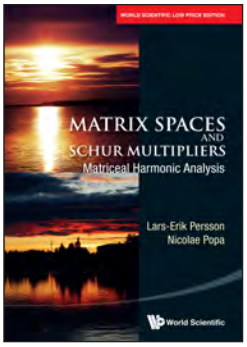


Lectures on Lie Groups
By W. Y. Hsiang
ISBN 9781944660888 • PB • 114pp
Original Price US$28
Indian Edition at Rs 795 • Year 2023

This invaluable book provides a concise and systematic introduction to the theory of compact connected Lie groups and their representations, as well as a complete presentation of the structure and classification theory. It uses a non-traditional approach and organization. There is a proper balance between, and a natural combination of, the algebraic and geometric aspects of Lie theory, not only in technical proofs but also in conceptual viewpoints. For example, the orbital geometry of adjoint action, is regarded as the geometric organization of the totality of non-commutativity of a given compact connected Lie group, while the maximal tori theorem of É. Cartan and the Weyl reduction of the adjoint action on G to the Weyl group action on a chosen maximal torus are presented as the key results that provide a clear-cut understanding of the orbital geometry.

Contents
- Linear Groups and Linear Representations
- Lie Groups and Lie Algebras
- Orbital Geometry of the Adjoint Action
- Coxeter Groups, Weyl Reduction and Weyl Formulas
- Structural Theory of Compact Lie Algebras
- Classification Theory of Compact Lie Algebras and Compact Connected Lie Groups

Readership: Graduate and postgraduates students in mathematics.

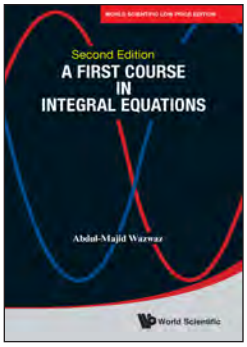


Matrix Spaces and Schur Multipliers
Matriceal Harmonic Analysis
By Lars-Erik Persson & Nicolae Popa
ISBN 9781944660864 • PB • 208pp
Original Price US$85
Indian Edition at Rs 1095 • Year 2023

This book gives a unified approach to the theory concerning a new matrix version of classical harmonic analysis. Most results in the book have their analogues as classical or newer results in harmonic analysis. It can be used as a source for further research in many areas related to infinite matrices. In particular, it could be a perfect starting point for students looking for new directions to write their PhD thesis as well as for experienced researchers in analysis looking for new problems with great potential to be very useful both in pure and applied mathematics where classical analysis has been used, for example, in signal processing and image analysis.

Contents
Introduction
Integral Operators in Infinite Matrix Theory
Matrix Versions of Spaces of Periodical Functions
Matrix Versions of Hardy Spaces
The Matrix Versions of BMOA
Matrix Versions of Bergman Spaces
A Matrix Version of Bloch Spaces
Schur Multipliers on Analytic Functions

Readership: Graduates and mathematicians interested in this new area of matriceal harmonic analysis but also researchers in areas using harmonic analysis, wavelets etc., e.g. signal processing and image analysis.



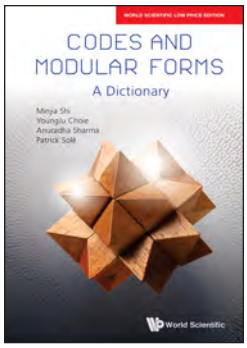
A First Course in Integral Equations, 2nd Edition
By Abdul-Majid Wazwaz
ISBN 9798886131444 • PB • 328pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2025

This second edition integrates the newly developed methods with classical techniques to give both modern and powerful approaches for solving integral equations. It provides a comprehensive treatment of linear and nonlinear Fredholm and Volterra integral equations of the first and second kinds. The materials are presented in an accessible and straightforward manner to readers, particularly those from non-mathematics backgrounds. Numerous well-explained applications and examples as well as practical exercises are presented to guide readers through the text. Selected applications from mathematics, science and engineering are investigated by using the newly developed methods.

This volume consists of nine chapters, pedagogically organized, with six chapters devoted to linear integral equations, two chapters on nonlinear integral equations, and the last chapter on applications. It is intended for scholars and researchers, and can be used for advanced undergraduate and graduate students in applied mathematics, science and engineering.

Contents
- Introductory Concepts
- Fredholm Integral Equations
- Volterra Integral Equations
- Fredholm Integro-Differential Equations
- Volterra Integro-Differential Equations
- Singular Integral Equations
- Nonlinear Fredholm Integral Equations
- Nonlinear Volterra Integral Equations
- Applications of Integral Equations

Readership: Advanced undergraduates, graduate students, and researchers in mathematics, science and engineering.

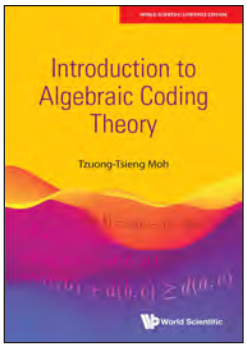


Codes and Modular Forms
A Dictionary
By Shi Minjia *et al.*
ISBN 9798886131451 • PB • 232pp
Original Price US$88
Indian Edition at Rs 1495 • Year 2025

There are connections between invariant theory and modular forms since the times of Felix Klein, in the 19th century, connections between codes and lattices since the 1960's. The aim of the book is to explore the interplay between codes and modular forms. Here modular form is understood in a wide sense (Jacobi forms, Siegel forms, Hilbert forms). Codes comprises not only linear spaces over finite fields but modules over some commutative rings. The connection between codes over finite fields and lattices has been well documented since the 1970s. Due to an avalanche of results on codes over rings since the 1990's there is a need for an update at book level.

Contents
- Codes vs Lattices: A Dictionary
- Modular Forms in One Variable
- Siegel Modular Forms
- Jacobi Forms
- Automorphic Forms over Number Fields
- Construction of Self-dual Codes of Higher Lengths over Z_{2m} and Determination of Jacobi Forms
- Byte Weight Enumerators of Codes and Modular Forms of Genus *g*
- Byte Weight Enumerators of Codes over F_p and Modular Forms over a Totally Real Field

Readership: Graduate students and researchers.



Introduction to Algebraic Coding Theory
By Tzuong-Tsieng Moh
ISBN 9781944660642 • PB • 268pp
Original Price US$88
Indian Edition at Rs 1395 • Year 2024

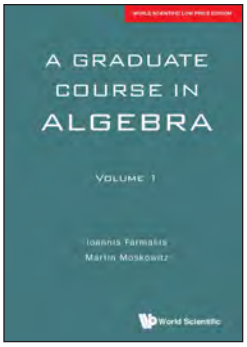
In this age of technology where messages are transmitted in sequences of 0's and 1's through space, errors can occur due to noisy channels. Thus, self-correcting code is vital to eradicate these errors when the number of errors is small. It is widely used in industry for a variety of applications including e-mail, telephone, and remote sensing (for example, photographs of Mars).

An expert in algebra and algebraic geometry, Tzuong-Tsieng Moh covers many essential aspects of algebraic coding theory in this book, such as elementary algebraic coding theories, the mathematical theory of vector spaces and linear algebras behind them, various rings and associated coding theories, a fast decoding method, useful parts of algebraic geometry and geometric coding theories.

This book is accessible to advanced undergraduate students, graduate students, coding theorists and algebraic geometers.

Contents
Vector Space Codes:
Linear Codes
Ring Codes:
Rings
Ring Codes
Algebraic Geometry
Algebraic Geometry
Algebraic Geometric Codes:
Algebraic Curve Goppa Codes
Decoding the Geometric Goppa Codes
Appendices:
Convolution Codes
Sphere-Packing Problem and Weight Enumerators
Other Important Coding and Decoding Methods
Berlekamp's Decoding Algorithm

Readership: Advanced college students, graduate students, working coding theorists, working algebraic geometers.

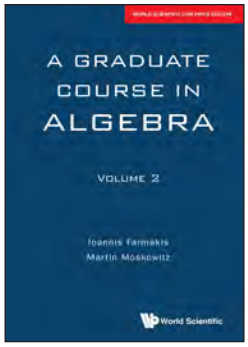


A Graduate Course in Algebra
Volume 1
By Ioannis Farmakis & Martin Moskowitz
ISBN 9780000988362 • PB • 456pp
Original Price US$59
Indian Edition at Rs 1395 • Year 2020

This comprehensive two-volume book deals with algebra, broadly conceived. Volume 1 (Chapters 1–6) comprises material for a first year graduate course in algebra, offering the instructor a number of options in designing such a course. Volume 1, provides as well all essential material that students need to prepare for the qualifying exam in algebra at most American and European universities. Volume 2 (Chapters 7–13) forms the basis for a second year graduate course in topics in algebra. As the table of contents shows, that volume provides ample material accommodating a variety of topics that may be included in a second year course. To facilitate matters for the reader, there is a chart showing the interdependence of the chapters.

Contents
- Introduction and Fundamentals
- Groups
- Further Topics in Group Theory
- Vector Spaces
- Inner Product Spaces
- Rings, Fields and Algebras
- R-Modules

Readership: Graduate students and researchers in Algebra and related areas.

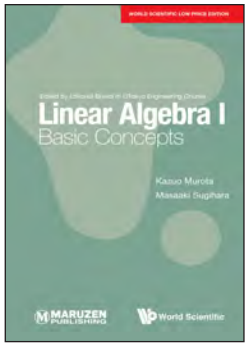


A Graduate Course in Algebra
Volume 2
By Ioannis Farmakis & Martin Moskowitz
ISBN 9780000988379 • PB • 416pp
Original Price US$59
Indian Edition at Rs 1395 • Year 2020

This comprehensive two-volume book deals with algebra, broadly conceived. Volume 1 (Chapters 1–6) comprises material for a first year graduate course in algebra, offering the instructor a number of options in designing such a course. Volume 1, provides as well all essential material that students need to prepare for the qualifying exam in algebra at most American and European universities. Volume 2 (Chapters 7–13) forms the basis for a second year graduate course in topics in algebra. As the table of contents shows, that volume provides ample material accommodating a variety of topics that may be included in a second year course. To facilitate matters for the reader, there is a chart showing the interdependence of the chapters.

Contents
- Multilinear Algebra
- Symplectic Geometry
- Commutative Rings with Identity
- Valuations and the p-adic Numbers
- Galois Theory
- Group Representations
- Representations of Associative Algebras

Readership: Graduate students and researchers in Algebra and related areas.



Linear Algebra I
Basic Concepts
By Kazuo Murota & Masaaki Sugihara
ISBN 9798886130546 • PB • 316pp
Original Price US$58
Indian Edition at Rs 1495 • Year 2024

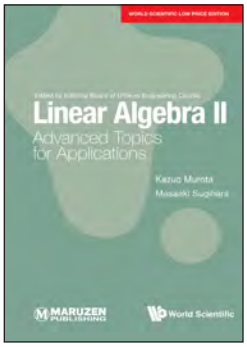
This is the first volume of the two-volume book on linear algebra. The objective of this volume is to present, from the engineering viewpoint, the standard mathematical results in linear algebra such as those on systems of equations and eigenvalue problems. In addition to giving mathematical theorems and formulas, it explains how the mathematical concepts such as rank, eigenvalues, and singular values are linked to engineering applications and numerical computations.

In particular, the following four aspects are emphasized.

- How matrices arise (discretization of differential equations, description of system structures, description of transition probability)
- What kinds of matrices arise (sparse matrices, positive definite matrices, diagonally-dominant matrices, nonnegative matrices, integer and polynomial matrices)
- What characteristics we are interested in (rank, eigenvalues, singular values, positive definiteness)
- How we can compute (expansion formulas of determinants, elementary transformation, estimates of eigenvalues).

Contents
- Matrices
- Determinants
- Elementary Transformations & Elimination
- Rank
- Systems of Linear Equations
- Eigenvalues
- Quadratic Forms
- Singular Values and the Method of Least Squares
- Vector Spaces
- Bibliography
- Index

Readership: Undergraduate students majoring in engineering and other mathematical sciences.



Linear Algebra II
Advanced Topics for Applications
By Kazuo Murota & Masaaki Sugihara
ISBN 9798886130553 • PB • 276pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2024

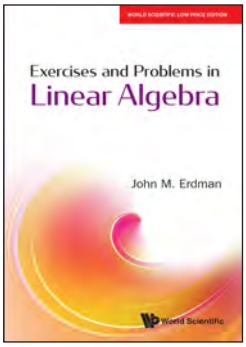
This is the second volume of the two-volume book on linear algebra in the University of Tokyo (UTokyo) Engineering Course.

The objective of this second volume is to branch out from the standard mathematical results presented in the first volume to illustrate useful specific topics pertaining to engineering applications. While linear algebra is primarily concerned with systems of equations and eigenvalue problems for matrices and vectors with real or complex entries, this volumes covers other topics such as matrices and graphs, nonnegative matrices, systems of linear inequalities, integer matrices, polynomial matrices, generalized inverses, and group representation theory.

The chapters are, for the most part, independent of each other, and can be read in any order according to the reader's interest. The main objective of this book is to present the mathematical aspects of linear algebraic methods for engineering that will potentially be effective in various application areas.

Contents
- Preface
- Matrices and Graphs
- Nonnegative Matrices
- Systems of Linear Inequalities
- Integer Matrices
- Polynomial Matrices
- Generalized Inverses
- Group Representation Theory
- Bibliography
- Index

Readership: Graduate students majoring in engineering and other mathematical sciences.

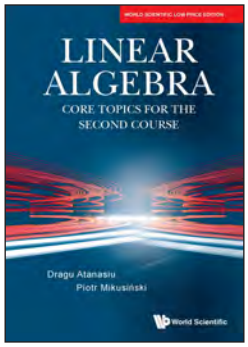


Exercises and Problems in Linear Algebra
By John M. Erdman
ISBN 9798886130676 • PB • 220pp
Original Price US$38
Indian Edition at Rs 1495 • Year 2024

This book contains an extensive collection of exercises and problems that address relevant topics in linear algebra. Topics that the author finds missing or inadequately covered in most existing books are also included. The exercises will be both interesting and helpful to an average student. Some are fairly routine calculations, while others require serious thought.

Contents
- **Matrices and Linear Equations:** Arithmetic of Matrices • Elementary Matrices; Determinants • Vector Geometry in $\mathbb{R}^n$
- **Vector Spaces:** Subspaces • Linear Independence • Basis for a Vector Space
- **Linear Maps Between Vector Spaces:** Linearity • Linear Maps Between Euclidean Spaces • Projection Operators
- **Spectral Theory of Vector Spaces:** Eigenvalues and Eigenvectors • Diagonalization of Matrices • Spectral Theorem for Vector Spaces • Some Applications of the Spectral Theorem • Every Operator is Diagonalizable Plus Nilpotent
- **The Geometry of Inner Product Spaces:** Complex Arithmetic • Real and Complex Inner Product Spaces • Orthonormal Sets of Vectors • Quadratic Forms • Optimization
- **Adjoint Operators:** Adjoints and Transposes • The Four Fundamental Subspaces • Orthogonal Projections • Least Squares Approximation
- **Spectral Theory of Inner Product Spaces:** Spectral Theorem for Real Inner Product Spaces • Spectral Theorem for Complex Inner Product Spaces • Bibliography • Index

Readership: Students and teachers of linear algebra.



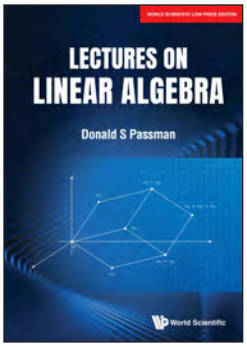
Linear Algebra
Core Topics for the Second Course
By Dragu Atanasiu & Piotr Mikusiński
ISBN 9798886130225 • PB • 332pp
Original Price US$118
Indian Edition at Rs 1950 • Year 2024

This is a book for the second course in linear algebra whereby students are assumed to be familiar with calculations using real matrices. To facilitate a smooth transition into rigorous proofs, it combines abstract theory with matrix calculations.

This book presents numerous examples and proofs of particular cases of important results before the general versions are formulated and proved. The knowledge gained from a particular case, that encapsulates the main idea of a general theorem, can be easily extended to prove another particular case or a general case. For some theorems, there are two or even three proofs provided. In this way, students stand to gain and study important results from different angles and, at the same time, see connections between different results presented in the book.

Contents
Preface
Vector Spaces
Linear Transformations
Inner Product Spaces
Reduction of Endomorphisms
Appendices:
- Permutations
- Complex Numbers
- Polynomials
- Infinite Dimensional Inner Product Spaces

Readership: Undergraduate students taking a second course in linear algebra.



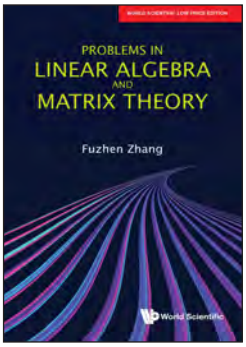
Lectures on Linear Algebra
By Donald S Passman
ISBN 9781944660819 • PB • 252pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2023

This book consists of the expanded notes from an upper level linear algebra course given some years ago by the author. Each section, or lecture, covers about a week's worth of material and includes a full set of exercises of interest. It should feel like a very readable series of lectures. The notes cover all the basics of linear algebra but from a mature point of view. The author starts by briefly discussing fields and uses those axioms to define and explain vector spaces. Then he carefully explores the relationship between linear transformations and matrices. Determinants are introduced as volume functions and as a way to determine whether vectors are linearly independent. Also included is a full chapter on bilinear forms and a brief chapter on infinite dimensional spaces.

The book is very well written, with numerous examples and exercises. It includes proofs and techniques that the author has developed over the years to make the material easier to understand and to compute.

Contents
- Vector Spaces
- Linear Transformations
- Determinants
- Bilinear Forms
- Infinite Dimensional Spaces

Readership: Upper level undergraduate math majors and graduate students.



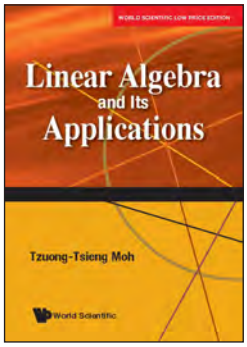
Problems in Linear Algebra and Matrix Theory
By Fuzhen Zhang
ISBN 9781944660055 • PB • 476pp
Original Price US$58
Indian Edition at Rs 1495 • Year 2024

This is the revised and expanded edition of the problem book Linear Algebra: Challenging Problems for Students, now entitled Problems in Linear Algebra and Matrix Theory. This new edition contains about fifty-five examples and many new problems, based on the author's lecture notes of Advanced Linear Algebra classes at Nova Southeastern University (NSU-Florida) and short lectures Matrix Gems at Shanghai University and Beijing Normal University.

The book is intended for upper division undergraduate and beginning graduate students, and it can be used as text or supplement for a second course in linear algebra. Each chapter starts with Definitions, Facts, and Examples, followed by problems. Hints and solutions to all problems are also provided.

Contents
- Vector Spaces
- Determinants, Inverses, Ranks, and Systems of Linear Equations
- Similarity, Eigenvalues, Matrix Decompositions, and Linear Transformations
- Special Matrices
- Inner Product Spaces
- Miscellaneous Problems
- Hints & Answers for Chapter 1 to Chapter 6

Readership: College/university students and instructors in mathematics, physics, statistics, computer science, etc. Upper division/ beginning graduate level.

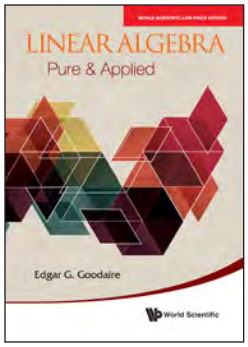


Linear Algebra and Its Applications
By Tzuong-Tsieng Moh
ISBN 9780000990280 • PB • 336pp
Original Price US$98
Indian Edition at Rs 1995 • Year 2021

From Tzuong-Tsieng Moh, a seasoned expert in algebra, comes a new book for students to better understand linear algebra. Writing from an experienced standpoint, Moh covers the many standard aspects comprising linear algebra, such as echelon forms, matrix algebra, linear transformations, and more. Moh further includes several advanced topics and applications, as well as self-correcting codes, Heisenberg's uncertainty principle, Maxwell's equations in relativity form, Google's search engine, and the theory of finitely generated modules over a PID. This book is ideal for both newcomers and experienced readers who want to attain a deeper understanding on both the basics and advanced topics of linear algebra and its vast applications. The wide range of topics combined with the depth of each discussion make it essential to be on the shelf of every mathematical beginner and enthusiast.

Contents
- Preface
- Preliminaries
- Module
- Determinants and Multilinear Algebras
- Inner Product Spaces
- Bilinear Forms and Decompositions
- Computational Linear Algebra

Readership: Graduate students and researchers interested in the basic and advanced topics of linear algebra and its applications.

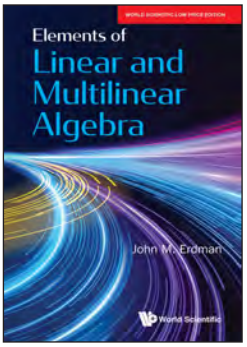


Linear Algebra
Pure & Applied
By Edgar G Goodaire
ISBN 9781944659912 • PB • 732pp
Original Price US$72
Indian Edition at Rs 2195 • Year 2022

This is a matrix-oriented approach to linear algebra that covers the traditional material of the courses generally known as "Linear Algebra I" and "Linear Algebra II" throughout North America, but it also includes more advanced topics such as the pseudoinverse and the singular value decomposition that make it appropriate for a more advanced course as well. As is becoming increasingly the norm, the book begins with the geometry of Euclidean 3-space so that important concepts like linear combination, linear independence and span can be introduced early and in a "real" context. The book reflects the author's background as a pure mathematician — all the major definitions and theorems of basic linear algebra are covered rigorously — but the restriction of vector spaces to Euclidean n-space and linear transformations to matrices, for the most part, and the continual emphasis on the system Ax=b, make the book less abstract and more attractive to the students of today than some others. As the subtitle suggests, however, applications play an important role too. Coding theory and least squares are recurring themes. Other applications include electric circuits, Markov chains, quadratic forms and conic sections, facial recognition and computer graphics.

Contents
- Euclidean *n*-Space
- Matrices and Linear Equations
- Determinants, Eigenvalues, Eigenvectors
- Vector Spaces
- Linear Transformations
- Orthogonality
- The Spectral Theorem

Readership: Undergraduates in mathematics.



Elements of Linear and Multilinear Algebra
By John M. Erdman
ISBN 9780000990372 • PB • 236pp
Original Price US$68
Indian Edition at Rs 1395 • Year 2021

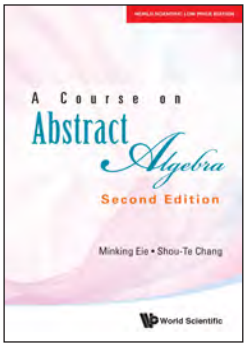
This set of notes is an activity-oriented introduction to linear and multilinear algebra. The great majority of the most elementary results in these subjects are straightforward and can be verified by the thoughtful student. Indeed, that is the main point of these notes — to convince the beginner that the subject is accessible. In the material that follows there are numerous indicators that suggest activity on the part of the reader: words such as "proposition", "example", "theorem", "exercise", & "corollary", if not followed by a proof (and proofs here are very rare) or a reference to a proof, are invitations to verify the assertions made.

These notes are intended to accompany an (academic) year-long course at the advanced undergraduate or beginning graduate level. (With judicious pruning most of the material can be covered in a two-term sequence.) The text is also suitable for a lecture-style class, the instructor proving some of the results while leaving others as exercises for the students.

This book has tried to keep the facts about vector spaces and those about inner product spaces separate. Many beginning linear algebra texts conflate the material on these two vastly different subjects.

Contents
Vector Spaces • Linear Transformations • The Language of Categories • The Spectral Theorem for Vector Spaces • The Spectral Theorem for Inner Product Spaces • A Brief Review of Differential Calculus • Multilinear Maps and Determinants • Tensor Algebras • Differential Manifolds • Differential Forms on Manifolds • Homology and Cohomology • Stokes' Theorem • Geometric Algebra • Clifford Algebras

Readership: Upper division undergraduates, beginning graduate students, instructors of linear and multilinear algebra.

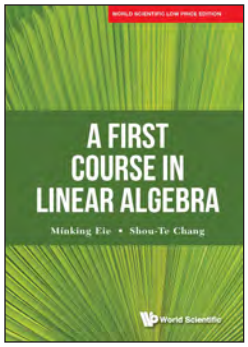


A Course on Abstract Algebra, 2nd Edition
By Minking Eie & Shou-Te Chang
ISBN 9780000988348 • PB • 432pp
Original Price US$88
Indian Edition at Rs 1295 • Year 2020

This textbook provides an introduction to abstract algebra for advanced undergraduate students. Based on the authors' notes at the Department of Mathematics, National Chung Cheng University, it contains material sufficient for three semesters of study. It begins with a description of the algebraic structures of the ring of integers and the field of rational numbers. Abstract groups are then introduced. Technical results such as Lagrange's theorem and Sylow's theorems follow as applications of group theory. The theory of rings and ideals forms the second part of this textbook, with the ring of integers, the polynomial rings and matrix rings as basic examples. Emphasis will be on factorization in a factorial domain. The final part of the book focuses on field extensions and Galois theory to illustrate the correspondence between Galois groups and splitting fields of separable polynomials. The textbook is more accessible & less ambitious than most existing books covering the same subject. Readers will also find the pedagogical material very useful in enhancing the teaching & learning of abstract algebra.

Contents
Preliminaries • Algebraic Structure of Numbers • Basic Notions of Groups • Cyclic Groups • Permutation Groups • Counting Theorems • Group Homomorphisms • The Quotient Group • Finite Abelian Groups • Group Actions • Sylow Theorems and Applications • Introduction to Group Presentations • Types of Rings • Ideals and Quotient Rings • Ring Homomorphisms • Polynomial Rings • Factorization • Introduction to Modules • Free Modules • Vector Spaces over Arbitrary Fields • Field Extensions • All About Roots • Galois Pairing • Applications of the Galois Pairing

Readership: Advanced undergraduates and academics in pure mathematics.



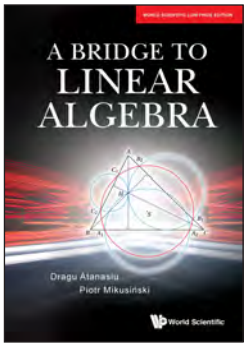
A First Course in Linear Algebra
By Minking Eie & Shou-Te Chang
ISBN 9780000988676 • PB • 388pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2020

A First Course in Linear Algebra is written by two experts from algebra who have more than 20 years of experience in algebra, linear algebra and number theory. It prepares students with no background in Linear Algebra. Students, after mastering the materials in this textbook, can already understand any Linear Algebra used in more advanced books and research papers in Mathematics or in other scientific disciplines.

This book provides a solid foundation for the theory dealing with finite dimensional vector spaces. It explains in details the relation between linear transformations and matrices. One may thus use different viewpoints to manipulate a matrix instead of a one-sided approach. Although most of the examples are for real and complex matrices, a vector space over a general field is briefly discussed. Several optional sections are devoted to applications to demonstrate the power of *Linear Algebra*.

Contents
- Preface
- Vector Spaces
- Bases and Dimension
- Linear Transformations and Matrices
- Elementary Matrix Operations
- Diagonalization
- Canonical Forms
- Inner Product Spaces

Readership: Undergraduates who are interested in learning linear algebra and its applications.



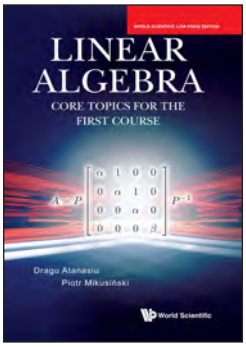
A Bridge to Linear Algebra
By Dragu Atanasiu & Piotr Mikusiński
ISBN 9780000988478 • PB • 508pp
Original Price US$78
Indian Edition at Rs 1995 • Year 2020

The book makes a first course in linear algebra more accessible to the majority of students and it assumes no prior knowledge of the subject. It provides a careful presentation of particular cases of all core topics. Students will find that the explanations are clear and detailed in manner. It is considered as a bridge over the obstacles in linear algebra and can be used with or without the help of an instructor.
While many linear algebra texts neglect geometry, this book includes numerous geometrical applications. For example, the book presents classical analytic geometry using concepts and methods from linear algebra, discusses rotations from a geometric viewpoint, gives a rigorous interpretation of the right-hand rule for the cross product using rotations & applies linear algebra to solve some nontrivial plane geometry problems.

Many students studying mathematics, physics, engineering and economics find learning introductory linear algebra difficult as it has high elements of abstraction that are not easy to grasp. This book will come in handy to facilitate the understanding of linear algebra whereby it gives a comprehensive, concrete treatment of linear algebra in R^2 and R^3. This method has been shown to improve, sometimes dramatically, a student's view of the subject.

Contents
Basic Ideas of Linear Algebra • Matrices • The Vector Space $\mathbb{R}^2$ • The Vector Space $\mathbb{R}^3$ • Determinants and Bases in $\mathbb{R}^3$ • Singular Value Decomposition of 3 x 2 Matrices • Diagonalization of 3 x 3 Matrices • Applications to Geometry • Rotations • Problems in Plane Geometry • Problems for a Computer Algebra System • Answers to Selected Exercises

Readership: Master, PhD or MD students, post-doctoral scientists or medical doctors, and any scientists using gene transfer techniques or implementing gene therapy strategies.



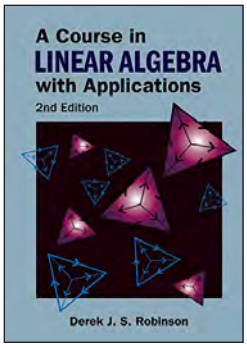
Linear Algebra
Core Topics for the First Course
By Dragu Atanasiu & Piotr Mikusiński
ISBN 9780000989239 • PB • 464pp
Original Price US$68
Indian Edition at Rs 1995 • Year 2020

The book is an introduction to linear algebra intended as a textbook for the first course in linear algebra. In the first six chapters we present the core topics: matrices, the vector space $\mathbb{R}^n$, orthogonality in $\mathbb{R}^n$, determinants, eigenvalues and eigenvectors, and linear transformations. The book gives students an opportunity to better understand linear algebra in the next three chapters: Jordan forms by examples, singular value decomposition, and quadratic forms and positive definite matrices.

In the first nine chapters everything is formulated in terms of $\mathbb{R}^n$. This makes the ideas of linear algebra easier to understand. The general vector spaces are introduced in Chapter 10. The last chapter presents problems solved with a computer algebra system. At the end of the book we have results or solutions for odd numbered exercises.

Contents
- Matrices
- The Vector Space $\mathbb{R}^n$
- Orthogonality in $\mathbb{R}^n$
- Determinants
- Eigenvalues and Eigenvectors
- Linear Transformations
- Jordan Forms by Examples
- Singular Value Decomposition
- Quadratic Forms and Positive Definite Matrices
- Vector Spaces
- Solutions with CAS
- Answers to Selected Exercises

Readership: Undergraduate students taking a first course in linear algebra.



A Course in Linear Algebra with Applications, 2nd Edition
By Derek J S Robinson
ISBN 9789812700247 • PB • 452pp
Original Price US$72
Indian Edition at Rs 795 • Year 2006

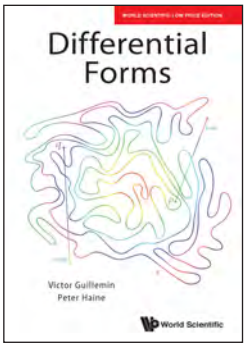
This is the second edition of the best-selling introduction to linear algebra. Presupposing no knowledge beyond calculus, it provides a thorough treatment of all the basic concepts, such as vector space, linear transformation and inner product. The concept of a quotient space is introduced and related to solutions of linear system of equations, and a simplified treatment of Jordan normal form is given.

Numerous applications of linear algebra are described, including systems of linear recurrence relations, systems of linear differential equations, Markov processes, and the Method of Least Squares. An entirely new chapter on linear programing introduces the reader to the simplex algorithm with emphasis on understanding the theory behind it.

The book is addressed to students who wish to learn linear algebra, as well as to professionals who need to use the methods of the subject in their own fields.

Contents
- Matrix Algebra
- Systems of Linear Equations
- Determinants
- Introduction to Vector Spaces
- Basis and Dimension
- Linear Transformations
- Orthogonality in Vector Spaces
- Eigenvectors and Eigenvalues
- More Advanced Topics
- Linear Programming

Readership: Undergraduates in mathematics, engineering, physics and information science; scientists who need to use linear algebra.



Differential Forms
By Victor Guillemin and Peter Haine
ISBN 9798886130829 • PB • 272pp
Original Price US$58
Indian Edition at Rs 1495 • Year 2024

"Guillemin and Haine's goal is to construct a well-documented road map that extends undergraduate understanding of multivariable calculus into the theory of differential forms. Throughout, the authors emphasize connections between differential forms and topology while making connections to single and multivariable calculus via the change of variables formula, vector space duals, physics; classical mechanisms, div, curl, grad, Brouwer's fixed-point theorem, divergence theorem, and Stokes's theorem … The exercises support, apply and justify the developing road map."

— CHOICE

There already exist a number of excellent graduate textbooks on the theory of differential forms as well as a handful of very good undergraduate textbooks on multivariable calculus in which this subject is briefly touched upon but not elaborated on enough. The goal of this textbook is to be readable and usable for undergraduates. It is entirely devoted to the subject of differential forms and explores a lot of its important ramifications.

- **Authoritative** textbook on differential forms for undergraduates
- Includes numerous **Examples** and **Exercises** for further in-depth understanding on the presented concepts
- The first author, **Victor Guillemin**, is a world-renowned mathematician in the field of symplectic geometry
- His co-author, **Peter Haine**, is a talented doctoral student at MIT under Clark Barwick.

Contents
- Multilinear Algebra
- The Concept of a Differential Form
- Integration of Forms
- Manifolds and Forms on Manifolds
- Cohomology via Forms
- Appendix

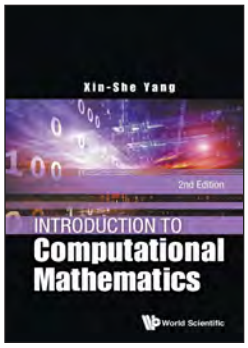
Readership: First-year graduate and advanced undergraduate students in math programs.

Applied Analysis, 3rd Edition
Mathematics for Science, Technology, Engineering
By Takashi Suzuki
ISBN 9798886130515 • PB • 688pp
Original Price US$148
Indian Edition at Rs 1950 • Year 2024

This book is to be a new edition of Applied Analysis. Several fundamental materials of applied and theoretical sciences are added, which are needed by the current society, as well as recent developments in pure and applied mathematics. New materials in the basic level are the mathematical modelling using ODEs in applied sciences, elements in Riemann geometry in accordance with tensor analysis used in continuum mechanics, combining engineering and modern mathematics, detailed description of optimization, and real analysis used in the recent study of PDEs. Those in the advance level are the integration of ODEs, inverse Strum Liouville problems, interface vanishing of the Maxwell system, method of gradient inequality, diffusion geometry, mathematical oncology. Several descriptions on the analysis of Smoluchowski-Poisson equation in two space dimension are corrected and extended, to ensure quantized blowup mechanism of this model, particularly, the residual vanishing both in blowup solution in finite time with possible collision of sub-collapses and blowup solutions in infinite time without it.

Contents:
Mathematical Modeling • Field Formation • Objects and Coordinates • Languages of Modern Geometry • Optimizations • Calculus of Variation • Infinite-Dimensional Analysis • Scattering • Random Motion of Particles • Linear PDE • Real Analysis in PDE • Nonlinear PDE • Appendix

Readership: Undergraduate students studying mathematics, physics, chemistry, engineering; graduate students specialized in mathematical analysis, real analysis, theory of partial differential equations; researches and specialists in the theory of nonlinear partial differential equations.

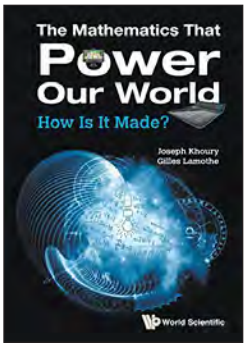


Introduction to Computational Mathematics, 2nd Edition
By Xin-She Yang
ISBN 9789814635783 • PB • 344pp
Original Price US$65
Indian Edition at Rs 1095 • Year 2015

This unique book provides a comprehensive introduction to computational mathematics, which forms an essential part of contemporary numerical algorithms, scientific computing and optimization. It uses a theorem-free approach with just the right balance between mathematics and numerical algorithms. This edition covers all major topics in computational mathematics with a wide range of carefully selected numerical algorithms, ranging from the root-finding algorithm, numerical integration, numerical methods of partial differential equations, finite element methods, optimization algorithms, stochastic models, nonlinear curve-fitting to data modelling, bio-inspired algorithms and swarm intelligence. This book is especially suitable for both undergraduates and graduates in computational mathematics, numerical algorithms, scientific computing, mathematical programming, artificial intelligence and engineering optimization. Thus, it can be used as a textbook and/or reference book.

Contents
- Mathematical Foundations
- Numerical Algorithms
- Numerical Methods of PDEs
- Mathematical Programming
- Stochastic Methods and Data Modelling
- Computational Intelligence

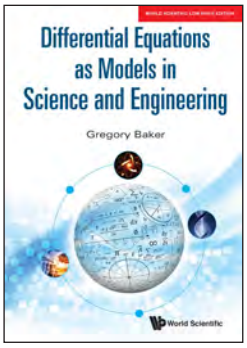
Readership: Advanced undergraduates and graduates in applied mathematics, engineering, computational sciences and scientific computing; computer scientists; algorithm developers; mathematical modellers; data analysts; researchers.



The Mathematics That Power Our World
How Is It Made?
By Joseph Khoury & Gilles Lamothe
ISBN 9789813144088 • PB • 204pp
Original Price US$28
Indian Edition at Rs 699 • Year 2016

This book is an attempt to unveil the hidden mathematics behind the functioning of many of the devices we use on a daily basis. For the past years, discussions on the best approach in teaching and learning mathematics have shown how much the world is divided on this issue. The one reality we seem to agree on globally is the fact that our new generation is lacking interest and passion for the subject. One has the impression that the vast majority of young students finishing high school or in their early post-secondary studies are more and more divided into two main groups when it comes to the perception of mathematics. The first group looks at mathematics as a pure academic subject with little connection to the real world. The second group considers mathematics as a set of tools that a computer can be programmed to use and thus, a basic knowledge of the subject is sufficient. This book serves as a middle ground between these two views. Many of the elegant and seemingly theoretical concepts of mathematics are linked to state-of-the-art technologies. The topics of the book are selected carefully to make that link more relevant. They include: digital calculators, basics of data compression and the Huffman coding, the JPEG standard for data compression, the GPS system studied both from the receiver and the satellite ends, image processing and face recognition.
This book is a great resource for mathematics educators in high schools, colleges and universities who want to engage their students in advanced readings that go beyond the classroom discussions. It is also a solid foundation for anyone thinking of pursuing a career in science or engineering. All efforts were made so that the exposition of each topic is as clear and self-contained as possible and thus, appealing to anyone trying to broaden his mathematical horizons.

Contents
What Makes a Calculator Calculate? • Basics of Data Compression, Prefix-Free Codes and Huffman Codes • The JPEG Standard • Global Positioning System (GPS) • Image Processing and Face Recognition

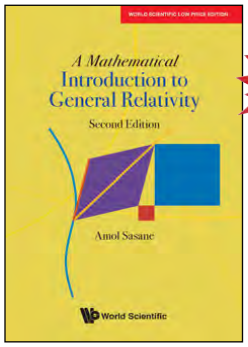


Differential Equations as Models in Science and Engineering
By Gregory Baker
ISBN 9780000988560 • PB • 392pp
Original Price US$48
Indian Edition at Rs 1695 • Year 2020

This textbook develops a coherent view of differential equations by progressing through a series of typical examples in science and engineering that arise as mathematical models. All steps of the modeling process are covered: formulation of a mathematical model: the development and use of mathematical concepts that lead to constructive solutions: validation of the solutions: and consideration of the consequences. The volume engages students in thinking mathematically, while emphasizing the power and relevance of mathematics in science and engineering. There are just a few guidelines that bring coherence to the construction of solutions as the book progresses through ordinary to partial differential equations using examples from mixing, electric circuits, chemical reactions and transport processes, among others. The development of differential equations as mathematical models and the construction of their solution is placed center stage in this volume.

Contents
- Linear Ordinary Differential Equations
- Periodic Behavior
- Boundary Value Problems
- Linear Partial Differential Equations
- Systems of Differential Equations
- **Appendices:**
  - The Exponential Function
  - The Taylor Series
  - Systems of Linear Equations
  - Complex Variables

Readership: Undergraduates in science and engineering studying differential equations.



NEW

A Mathematical Introduction to General Relativity, 2nd Edition
By Amol Sasane
ISBN 9798886131918 • PB • 544pp
Original Price US$88
Indian Edition at Rs 2995 • Year 2026

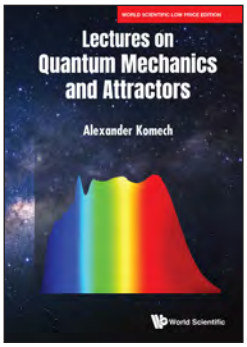
The book aims to give a mathematical presentation of the theory of general relativity (that is, spacetime-geometry-based gravitation theory) to advanced undergraduate mathematics students. Mathematicians will find spacetime physics presented in the definition-theorem-proof format familiar to them. The given precise mathematical definitions of physical notions help avoiding pitfalls, especially in the context of spacetime physics describing phenomena that are counter-intuitive to everyday experiences.

In the first part, the differential geometry of smooth manifolds, which is needed to present the spacetime-based gravitation theory, is developed from scratch.

In the second part, the focus is on physics, covering essential material of the 20th century spacetime-based view of gravity: energy-momentum tensor field of matter, field equation, spacetime examples, Newtonian approximation, geodesics, tests of the theory, black holes, and cosmological models of the universe.

Contents
• Smooth Manifolds • Tangent and Cotangent Spaces • Vector Fields and 1-Form Fields • Tensor Fields • Lorentzian Manifolds • Levi-Civita Connection • Parallel Transport • Geodesics • Curvature • Form Fields • Integration • Minkowski Spacetime Physics • Matter • Field Equation • Black Holes • Cosmology

Readership: Advanced undergraduate and beginning graduate students in Mathematics and Physics.



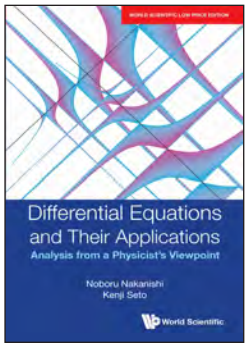
Lectures on Quantum Mechanics and Attractors
By Alexander Komech
ISBN 9798886130614 • PB • 272pp
Original Price US$88
Indian Edition at Rs 1850 • Year 2024

This book gives a concise introduction to Quantum Mechanics with a systematic, coherent, and in-depth explanation of related mathematical methods from the scattering theory and the theory of Partial Differential Equations. The book is aimed at graduate and advanced undergraduate students in mathematics, physics, & chemistry, as well as at the readers specializing in quantum mechanics, theoretical physics and quantum chemistry, and applications to solid state physics, optics, superconductivity, & quantum and high-frequency electronic devices.

The book utilizes elementary mathematical derivations. The presentation assumes only basic knowledge of the origin of Hamiltonian mechanics, Maxwell equations, calculus, Ordinary Differential Equations and basic PDEs. Key topics include the Schrödinger, Pauli, and Dirac equations, the corresponding conservation laws, spin, the hydrogen spectrum, and the Zeeman effect, scattering of light and particles, photoelectric effect, electron diffraction, and relations of quantum postulates with attractors of nonlinear Hamiltonian PDEs. Featuring problem sets and accompanied by extensive contemporary and historical references, this book could be used for the course on Quantum Mechanics and is also suitable for individual study.

Contents
- Nonrelativistic Quantum Mechanics
- Scattering of Light and Particles
- Atom in Magnetic Field
- Relativistic Quantum Mechanics
- Quantum Postulates and Attractors
- Attractors of Hamiltonian PDEs

Readership: Discipline/profession: Physics and Mathematics. Sector: university, academia and industry. Level: Graduate students and advanced undergraduate students physicists, chemists and mathematicians, lecturers in Quantum Mechanics.

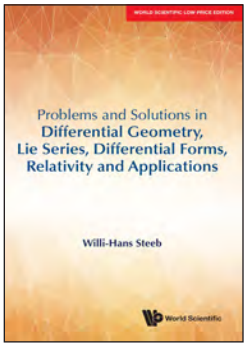


Differential Equations and Their Applications
Analysis from a Physicist's Viewpoint
By Noboru Nakanishi and Kenji Seto
ISBN 9781944660710 • PB • 396pp
Original Price US$98
Indian Edition at Rs 1750 • Year 2023

This book is written for students and researchers who are fond of mathematics and the natural sciences. It consists of two parts. Part I presents the theory of analysis in which the mathematical theory is described not as an accomplished palace, but as a building under construction. It uncovers how a theory has been or is being constructed. In Part II, the theory of differential equations is applied to interesting practical problems, such as pursuit-line and tractrix, attack on an object from an airplane, an insect crawling along a stretching rubber rod, the SIR model of a virus infection, string vibration, circular membrane vibration, as well as the wind ripple, sand dune and wave phenomena on a highway. Furthermore, the problems of a one-dimensional lattice vibration, the keyboard percussion vibration and the eigenvalue problems in quantum mechanics, such as the Aharonov–Bohm effect, are also investigated in detail.

Contents
Theories:
Introduction to the Theory of Analysis
Differential Equations
Differential Operators
Applications:
Ordinary Differential Equations
Partial Differential Equations
Problems Involving Bessel Functions
Potential Problems in Quantum Mechanics

Readership: Undergraduate students, postgraduate students and researchers interested in the theory and applications of differential equations in mathematics and the natural sciences.



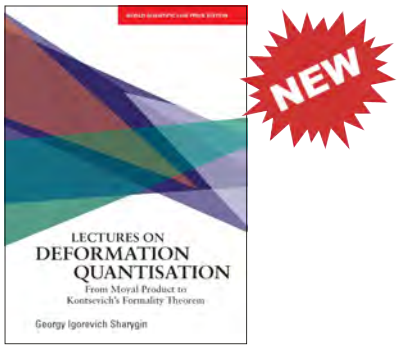
Problems and Solutions in Differential Geometry, Lie Series, Differential Forms, Relativity and Applications
By Willi-Hans Steeb
ISBN 9780000989024 • PB • 296pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2020

This volume presents a collection of problems and solutions in differential geometry with applications. Both introductory and advanced topics are introduced in an easy-to-digest manner, with the materials of the volume being self-contained. In particular, curves, surfaces, Riemannian and pseudo-Riemannian manifolds, Hodge duality operator, vector fields and Lie series, differential forms, matrix-valued differential forms, Maurer–Cartan form, and the Lie derivative are covered.

Readers will find useful applications to special and general relativity, Yang–Mills theory, hydrodynamics and field theory. Besides the solved problems, each chapter contains stimulating supplementary problems and software implementations are also included. The volume will not only benefit students in mathematics, applied mathematics and theoretical physics, but also researchers in the field of differential geometry.

Contents
- Preface
- Notation
- Curves, Surfaces and Manifolds
- Vector Fields, Lie Series and Lie Algebras
- Metric Tensor Fields
- Differential Forms and Applications
- Lie Derivative and Applications
- Bibliography
- Index

Readership: Graduate students, lecturers and researchers in differential geometry and its applications.



Lectures on Deformation Quantisation
From Moyal Product to Kontsevich's Formality Theorem
By Georgy Igorevich Sharygin
ISBN 9798886131697 • PB • 452pp
Original Price US$138
Indian Edition at Rs 1995 • Year 2026

Principles of classical Hamiltonian mechanics say that the evolution of a dynamical system is determined by the Poisson bracket of observable functions with the given Hamiltonian function of the system. In Quantum Mechanics, these principles are modified so that the algebra of observable functions should be replaced by a noncommutative algebra of operators and the Poisson bracket by their commutator so that the canonical commutation relations hold. Thus, working with quantum systems, we must determine the "quantisation" of our observables, i.e. to choose a noncommutative algebra whose elements would play the role of the observables. With some modifications, this question is the main content of the Deformation Quantisation problem formulated in 1978 by Flato and others.

This book is based on the course that the author taught in the Fall semester of 2019 at Peking University. The main purpose of that course and of this book is to acquaint the reader with the vast scope of ideas related to the Deformation Quantisation of Poisson manifolds. The book begins with Quantum Mechanics and Moyal product formula and covers the three main constructions that solve the Deformation Quantisation problem: Lecomte and de Wilde deformation of symplectic manifolds, Fedosov's Quantisation theory and Kontsevich's formality theorem. In the appendices, the Tamarkin's proof of formality theorem is outlined.

The book is written in a reader-friendly manner and is as self-contained as possible. It includes several sets of problems and exercises that will help the reader to master the material.

Contents
- Preface
- Introduction
- General Principles of Classical and Quantum Mechanics
- Weyl Quantisation
- Moyal Quantisation

Contd.

Contd.
- ***General Quantisation Principles***:
  - Symplectic and Poisson Structures
  - Deformations and Lie Algebras: A Nontrivial Example
  - Crash Course in homological algebra, I. Examples
- ***Exercises 2: Poisson Structures, Quantisation and Cohomology***:
  - Crash Course in Homological Algebra, II. Hochschild Homology
  - Hochschild Cohomology of C∞-Functions: Hochschild–Kostant–Rosenberg Theorem
  - Obstructions and deformation theory: Examples
- ***Exercises 3: Hochschild Homology and Cohomology: Obstructions Theory:***
  - Deformation Quantisation of Cotangent Bundles
  - Lie Algebra Cohomology: Vey Class
  - Lecomte and de Wilde's Theorem: Quantisation of Symplectic Manifolds
- ***Exercises 4: Obstructions and Deformation Quantisation of Symplectic Manifolds:***
  - Fedosov Quantisation: Abelian Connections
  - Fedosov Quantisation and Its Properties
  - Properties, Generalisations and Applications of Fedosov Quantisation (A Survey)
- ***Exercises 5: Fedosov Quantisation:***
  - Higher Homotopy Algebras: Topological Background and Definitions
  - Maurer–Cartan Equations and Kontsevich's Theorem
  - Kontsevich's Construction
- ***Exercises 6: Higher Homotopy Algebras, Kontsevich's Theorem:***
  - Kontsevich's Quantisation: Modifications and Related Questions
  - Applications of Kontsevich's Quantisation: Duflo's Isomorphism
- ***Exercises 7: Kontsevich's Quantisation: Properties and Applications:***
  - Operads: History and Definitions
  - Tamarkin's Proof of Formality Theorem
- ***List of References:***
  - Textbooks, Surveys and Monographs
  - Original Papers
- Index

Readership: Postgraduate and advanced undergraduate students of Mathematics and Physics, researchers and scholars in the fields of Quantum Physics and Mathematics, aiming at learning the basics of deformation quantisation theory, or to teach a course on this subject. Researchers in the fields of Applied Physics and Mathematics.

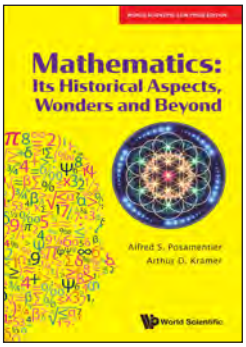
Hungarian Mathematical Olympiad (1964–1997)
Problems and Solutions
By Fusheng Leng, Xin Li & Huawei Zhu
ISBN 9798886130058 • PB • 308pp
Original Price US$34
Indian Edition at Rs 1695 • Year 2024

This book is about a famous Hungarian mathematics competition that was founded in 1894, and thus, the oldest mathematics competition for secondary school students organized on a national scale. This book is based on Volumes III and IV of the Hungarian work by János Surányi, covering the years from 1964 to 1997. Hungary, along with Russia, has a well-deserved reputation for proposing important, instructive, and interesting problems. Here, the reader will find a treasure trove of over 100 of them. The solutions are written carefully, giving all the details, and keeping in mind at all times the overall logical structures of the arguments.

An outstanding feature of this book is *Part II: Discussion*. Here, the problems are divided by topics into six groups. It contains a discussion of the topic in general, followed by the basic results, that precedes the discussions of the individual problems. When a student encounters some difficulty in a problem, this part of the book can be consulted without revealing the complete solution. As an alternative, a student can also start with this part to familiarize with the general topic before attempting any problems. Finally, almost 400 additional problems from the legendary KöMaL (Secondary School Mathematics and Physics Journal) takes the student to mathematical topics beyond competitions.

Contents
Problems: Answers • **Discussion:** Combinatorics • Number Theory • Algebra • Euclidean Geometry • Solid Geometry and Lattice Geometry • Combinatorial Geometry **Solutions • Appendix**

Readership: Eager students preparing for the Mathematical Olympiads who are looking for training material. Experienced trainers preparing students for the Mathematical Olympiads who are looking for teaching resources. Professional mathematicians and secondary school teachers interested in problem solving.

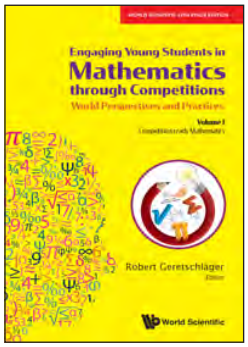


Mathematics
Its Historical Aspects, Wonders and Beyond
By Alfred S Posamentier, &
Arthur D Kramer
ISBN 9781944660758 • PB • 404pp
Original Price US$48
Indian Edition at Rs 1595 • Year 2023

The book offers 101 mathematical gems, some of which may require a modicum of high school mathematics and others, just a desire to carefully apply oneself to the ideas. Many folks have spent years encountering mathematical terms, symbols, relationships and other esoteric expressions. Their origins and their meanings may never have been revealed, such as the symbols +, -, =, π. ∞, √, Σ, and many others. This book provides a delightful insight into the origin of mathematical symbols and popular theorems such as the Pythagorean Theorem & the Fibonacci Sequence, common mathematical mistakes & curiosities, intriguing number relationships, and some of the different mathematical procedures in various countries. The book uses a historical and cultural approach to the topics, which enhances the subject matter and greatly adds to its appeal. The mathematical material can, therefore, be more fully appreciated and understood by anyone who has a curiosity and interest in mathematics, especially if in their past experience they were expected to simply accept ideas and concepts without a clear understanding of their origins and meaning. It is hoped that this will cast a new and positive picture of mathematics and provide a more favorable impression of this most important subject and be a different experience than what many may have previously encountered. It is also our wish that some of the fascination and beauty of mathematics shines through in these presentations.

Contents
Introduction • All About Numbers and Symbols • Arithmetic Curiosities • Aspects of Measurement • Geometric Novelties • Probability • A Potpourri of Mathematical Topics • Index

Readership: General readership as well as to teachers and students of mathematics at the secondary level.



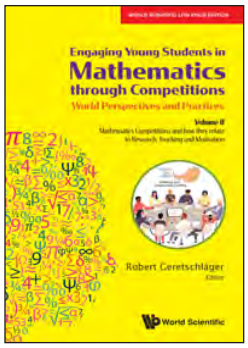
Engaging Young Students in Mathematics through Competitions — World Perspectives and Practices
Volume I — Competition-ready Mathematics
By Robert Geretschläger
ISBN 9798886130416 • PB • 192pp
Original Price US$38
Indian Edition at Rs 1195 • Year 2024

The two volumes of *Engaging Young Students in Mathematics through Competitions* present a wide scope of aspects relating to mathematics competitions and their meaning in the world of mathematical research, teaching and entertainment. Volume I contains a wide variety of fascinating mathematical problems of the type often presented at mathematics competitions as well as papers by an international group of authors involved in problem development, in which we can get a sense of how such problems are created in various specialized areas of competition mathematics as well as recreational mathematics.

It will be of special interest to anyone interested in solving original mathematics problems themselves for enjoyment to improve their skills. It will also be of special interest to anyone involved in the area of problem development for competitions, or just for recreational purposes. The various chapters were written by the participants of the 8th Congress of the World Federation of National Mathematics Competitions in Austria in 2018.

Contents
Introduction • **Some Paths Leading from Interesting Mathematics to the Development of Potential Competition Problems:** • Some Standard-Like Problems and Non-standard Solutions • Balls and Polyhedra • Hunting of Lions: Inversion May Help • Sangaku: Traditional Japanese Mathematics • Can We Pose Problems That are Attractive, Yet Accessible to Many? • A Functional Equation Arising from Compatibility of Means • Open Problems as Generalizations of Tasks from Mathematics Competitions • **Some Favorite Puzzles and Problems Presented by Participants...**

Readership: Students, teachers, researchers, and general public interested in mathematics competition problems.



Engaging Young Students in Mathematics through Competitions — World Perspectives and Practices

Volume II — Mathematics Competitions and how they relate to Research, Teaching and Motivation

By Robert Geretschläger

ISBN 9798886130409 • PB • 300pp
Original Price US$48
Indian Edition at Rs 1995 • Year 2024

The two volumes of "*Engaging Young Students in Mathematics through Competitions*" present a wide scope of aspects relating to mathematics competitions and their meaning in the world of mathematical research, teaching and entertainment.

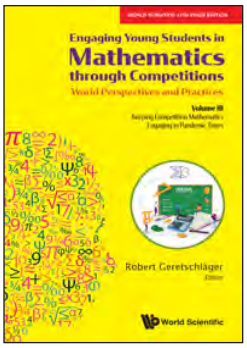
Volume II contains background information on connections between the mathematics of competitions and the organization of such competitions, their interplay with research, teaching and more.

It will be of interest to anyone involved with mathematics competitions at any level, be they researchers, competition participants, teachers or theoretical educators.

The various chapters were written by the participants of the 8th Congress of the World Federation of National Mathematics Competitions in Austria in 2018.

Contents

Readership: Students, teachers, researchers, and general public interested in mathematics competition problems.



Engaging Young Students in Mathematics through Competitions — World Perspectives and Practices

Volume III — Keeping Competition Mathematics Engaging in Pandemic Times

By Robert Geretschläger

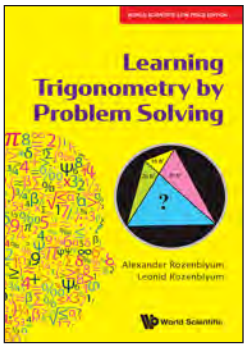
ISBN 9798886130362 • PB • 344pp
Original Price US$48
Indian Edition at Rs 1295 • Year 2024

Engaging Young Students in Mathematics through Competitions presents a wide range of topics relating to mathematics competitions and their meaning in the world of mathematical research, teaching and entertainment. Following the earlier two volumes, contributors explore a wide variety of fascinating problems of the type often presented at mathematics competitions. In this new third volume, many chapters are directly related to the challenges involved in organizing competitions under Covid-19, including many positive aspects resulting from the transition to online formats. There are also sections devoted to background information on connections between the mathematics of competitions and their organization, as well as the competitions' interplay with research, teaching and more.

The various chapters are written by an international group of authors involved in problem development, many of whom were participants of the 9th Congress of the World Federation of National Mathematics Competitions in Bulgaria in 2022. Together, they provide a deep sense of the issues involved in creating such problems for competition mathematics and recreational mathematics.

Contents

Readership: This book is most suited as a reference text for organisers of mathematics competitions and math didactics researchers. However, it would also be suitable for a general audience, particularly math puzzle enthusiasts, as well as students training for the sorts of math competitions discussed in this book.



Learning Trigonometry by Problem Solving

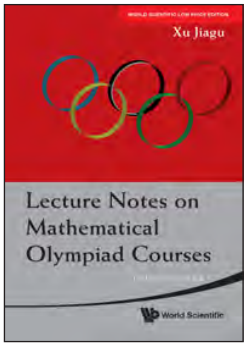
By Alexander Rozenblyum & Leonid Rozenblyum

ISBN 9798886130386 • PB • 380pp
Original Price US$48
Indian Edition at Rs 1795 • Year 2024

In this book, trigonometry is presented mainly through the solution of specific problems. The problems are meant to help the reader consolidate their knowledge of the subject. In addition, they serve to motivate and provide context for the concepts, definitions, and results as they are presented. In this way, it enables a more active mastery of the subject, directly linking the results of the theory with their applications. Some historical notes are also embedded in selected chapters.

The problems in the book are selected from a variety of disciplines, such as physics, medicine, architecture, and so on. They include solving triangles, trigonometric equations, and their applications. Taken together, the problems cover the entirety of material contained in a standard trigonometry course which is studied in high school and college. We have also added some interesting, entertainment problems.

Contents



Lecture Notes on Mathematical Olympiad Courses
For Junior Section – Volume 1
By Xu Jiagu
ISBN 9798886130324 • PB • 184pp
Original Price US$25
Indian Edition at Rs 895 • Year 2024

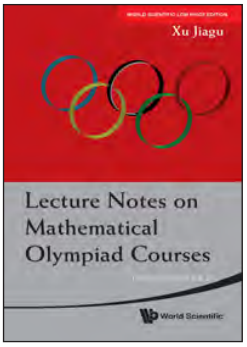
Olympiad mathematics is not a collection of techniques of solving mathematical problems but a system for advancing mathematical education. This book is based on the lecture notes of the mathematical Olympiad training courses conducted by the author in Singapore. Its scope and depth not only covers and exceeds the usual syllabus, but introduces a variety concepts and methods in modern mathematics. In each lecture, the concepts, theories and methods are taken as the core. The examples are served to explain and enrich their intension and to indicate their applications. Besides, appropriate number of test questions is available for reader's practice and testing purpose. Their detailed solutions are also conveniently provided.

The examples are not very complicated so that readers can easily understand. There are many real competition questions included which students can use to verify their abilities. These test questions are from many countries, e.g. China, Russia, USA, Singapore, etc. In particular, the reader can find many questions from China, if he is interested in understanding mathematical Olympiad in China.

This book serves as a useful textbook of mathematical Olympiad courses, or as a reference book for related teachers and researchers.

Contents
Operations on Rational Numbers • Linear Equations of Single Variable • Multiplication Formulae • Absolute Value & Its Applications • Congruence of Triangles • Similarity of Triangles • Divisions of Polynomials • Solutions to Testing Questions • and other chapters

Readership: Mathematics students, school teachers, college lecturers, university professors; mathematics enthusiasts.



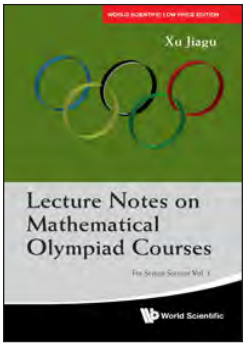
Lecture Notes on Mathematical Olympiad Courses
For Junior Section – Volume 2
By Xu Jiagu
ISBN 9798886130461 • PB • 192pp
Original Price US$25
Indian Edition at Rs 995 • Year 2024

Olympiad mathematics is not a collection of techniques of solving mathematical problems but a system for advancing mathematical education.
This book is based on the lecture notes of the mathematical Olympiad training courses conducted by the author in Singapore. Its scope and depth not only covers and exceeds the usual syllabus, but introduces a variety concepts and methods in modern mathematics.
In each lecture, the concepts, theories and methods are taken as the core. The examples are served to explain and enrich their intension and to indicate their applications. Besides, appropriate number of test questions is available for reader's practice and testing purpose. Their detailed solutions are also conveniently provided.
The examples are not very complicated so that readers can easily understand. There are many real competition questions included which students can use to verify their abilities. These test questions are from many countries, e.g. China, Russia, USA, Singapore, etc. In particular, the reader can find many questions from China, if he is interested in understanding mathematical Olympiad in China.

This book serves as a useful textbook of mathematical Olympiad courses, or as a reference book for related teachers and researchers.

Contents
Congruence of Integers • Decimal Representation of Integers • Pigeonhole Principle • Linear Inequality and System of Linear Inequalities • Inequalities with Absolute Values • Geometric Inequalities • Solutions to Testing Questions • and other chapters

Readership: Mathematics students, school teachers, college lecturers, university professors; mathematics enthusiasts.



Lecture Notes on Mathematical Olympiad Courses
for Senior Section – Volume 1
By Xu Jiagu
ISBN 9798886130300 • PB • 260pp
Original Price US$43
Indian Edition at Rs 1095 • Year 2024

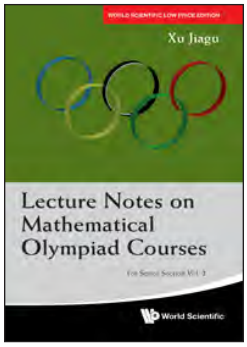
Olympiad mathematics is not a collection of techniques of solving mathematical problems but a system for advancing mathematical education. This book is based on the lecture notes of the mathematical Olympiad training courses conducted by the author in Singapore. Its scope and depth not only covers and beyond the usual syllabus, but introduces a variety of concepts and methods in modern mathematics as well.

In each lecture, the concepts, theories and methods are taken as the core. The examples serve to explain and enrich their intentions and to indicate their applications. Besides, appropriate number of test questions is available for the readers' practice and testing purpose. Their detailed solutions are also conveniently provided.

The examples are not very complicated so readers can easily understand. There are many real competition questions included which students can use to verify their abilities. These test questions originate from many countries all over the world.

This book will serve as a useful textbook of mathematical Olympiad courses, a self-study lecture notes for students, or as a reference book for related teachers and researchers.

Contents
Fractional Equations • Higher Degree Polynomial Equations • Irrational Equations • Indicial Functions & Logarithmic Functions • Trigonometric Functions • Law of Sines and Law of Cosines • Manipulations of Trigonometric Expressions • Extreme Values of Functions and Mean Inequality • Extreme Value Problems in Trigonometry • Fundamental Properties of Circles • Relation of Line and Circle and Relation of Circles • Cyclic Polygons • Power of a Point with Respect to a Circle • Some Important Theorems in Geometry • Five Centers of a Triangle.



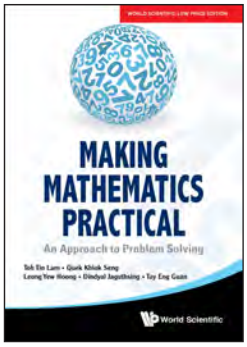
Lecture Notes on Mathematical Olympiad Courses
for Senior Section – Volume 2
By Xu Jiagu
ISBN 9798886130478 • PB • 296pp
Original Price US$47
Indian Edition at Rs 995 • Year 2024

Olympiad mathematics is not a collection of techniques of solving mathematical problems but a system for advancing mathematical education.

This book is based on the lecture notes of the mathematical Olympiad training courses conducted by the author in Singapore. Its scope and depth not only covers and beyond the usual syllabus, but introduces a variety of concepts and methods in modern mathematics as well.
In each lecture, the concepts, theories and methods are taken as the core. The examples serve to explain and enrich their intentions and to indicate their applications. Besides, appropriate number of test questions is available for the readers' practice and testing purpose. Their detailed solutions are also conveniently provided.
The examples are not very complicated so readers can easily understand. There are many real competition questions included which students can use to verify their abilities. These test questions originate from many countries all over the world.

This book will serve as a useful textbook of mathematical Olympiad courses, a self-study lecture notes for students, or as a reference book for related teachers and researchers.

Contents
Mathematical Induction • Arithmetic Progressions and Geometric Progressions • Recursive Sequences • Summation of Various Sequences • Some Fundamental Theorems on Congruence • Chinese Remainder Theorem and Order of Integer • Diophantine Equations (III) • Pythagorean Triples and Pell's Equations • Quadratic Residues • Some Important Inequalities(I) • Some Important Inequalities(II) • Some Methods for Solving Inequalities • Some Basic Methods in Counting(I) • Some Basic Methods in Counting(II) • Introduction to Functional Equations.



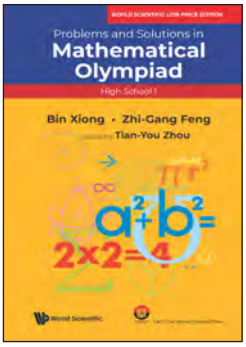
Making Mathematics Practical
An Approach to Problem Solving
By Tin Lam Toh, Khiok Seng Quek, *et al.*
ISBN 9798886130317 • PB • 164pp
Original Price US$45
Indian Edition at Rs 1195 • Year 2024

This book is the first of its kind, as it includes both mathematics content and pedagogy. It is a professional instructional manual on how mathematical problem solving curriculum can be implemented in the classrooms. The book develops from the theoretical work of Polya and Schoenfeld, and explicates how these can be translated to the actual implementation in schools. It represents the work of a group of researchers from the Singapore National Institute of Education, after experimenting with it in the Singapore school classrooms.

This book includes a set of scheme of work, lesson plans and a choice of mathematics problems that teachers can actually use in teaching problem solving. Certain pedagogical considerations are developed and suggested in this book. In addition, the book includes an assessment framework on how mathematical problem solving can be assessed.

Contents
- Mathematical Problem Solving
- Scheme of Work and Assessment of the Mathematics Practical
- Detailed Lesson Plans
- Scaffolding Suggestions, Solutions to the Problems and Assessment Notes

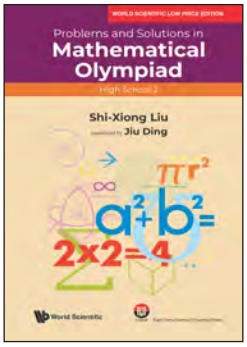
Readership: Mathematics educators who value the processes (in addition to the product) of mathematical problem solving.



Problems and Solutions in Mathematical Olympiad (High School 1)
By Bin Xiong & Zhi-Gang Feng
ISBN 9781944660406 • PB • 580pp
Original Price US$58
Indian Edition at Rs 1995 • Year 2023

The series is edited by the head coaches of China's IMO National Team. Each volume, catering to different grades, is contributed by the senior coaches of the IMO National Team. The Chinese edition has won the award of Top 50 Most Influential Educational Brands in China. In each chapter, well-designed problems including those collected from real competitions are provided so that the students can apply the skills and strategies they have learned to solve these problems. Detailed solutions are provided selectively. As a feature of the series, we also include some solutions generously offered by the members of Chinese national team and national training team.

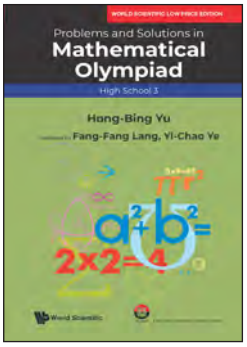
Contents
Concepts and Operations of Sets • Number of Elements in a Finite Set • Quadratic Functions • Graphs and Properties of Functions • Power Functions, Exponential Functions, and Logarithmic Functions • Functions with Absolute Values • Maximum and Minimum Values of Functions • Properties of Inequalities • Basic Inequalities • Solutions of Inequalities • Synthetical Problems of Inequalities • Concepts and Properties of Trigonometric Functions • Deformation via Trigonometric Identities • Trigonometric Inequalities • Extreme Value Problems of Trigonometric Functions • Inverse Trigonometric Functions and Trigonometric Equations • The Law of Sines and the Law of Cosines • Concepts and Operations of Vectors • "Angles" and "Distances" in Spaces • Cross Sections, Folding, and Unfolding • Projections and the Area Projection Theorem • Partitions of Sets • Synthetical Problems of Quadratic Functions • Maximum and Minimum Values of Discrete Quantities • Simple Function Iteration and Functional Equations • Constructing Functions to Solve Problems • Vectors and Geometry • Tetrahedrons • The Five Centers of a Triangle • Some Famous Theorems in Plane Geometry • The Extremal Principle



Problems and Solutions in Mathematical Olympiad (High School 2)
By Shi-Xiong Liu
ISBN 9781944660413 • PB • 608pp
Original Price US$58
Indian Edition at Rs 2095 • Year 2023

The series is edited by the head coaches of China's IMO National Team. Each volume, catering to different grades, is contributed by the senior coaches of the IMO National Team. The Chinese edition has won the award of Top 50 Most Influential Educational Brands in China. The series is created in line with the mathematics cognition and intellectual development levels of the students in the corresponding grades. All hot mathematics topics of the competition are included in the volumes and are organized into chapters where concepts and methods are gradually introduced to equip the students with necessary knowledge until they can finally reach the competition level. In each chapter, well-designed problems including those collected from real competitions are provided so that the students can apply the skills and strategies they have learned to solve these problems. Detailed solutions are provided selectively. As a feature of the series, we also include some solutions generously offered by the members of Chinese national team and national training team.

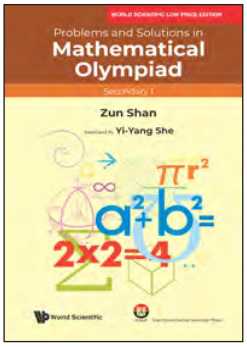
Contents
Maximum and Minimum Values • Usual Methods for Proving Inequalities • Common Techniques for Proving Inequalities • Arithmetic and Geometric Sequences • Arithmetic Sequences of Higher Order • Sequence Summation • Synthetic Problems for Sequences • Coordinates Systems • Straight Lines • Circles • Ellipses • Hyperbolas • Parabolas • Parametric Equations • Families of Curves • Derivatives • Mathematical Induction (I) • Complex Numbers • Geometric Meaning of Complex Operations • Mean Value Inequalities • Cauchy Inequality • Rearrangement Inequalities • Convex Functions and Jensen's Inequality • Recursive Sequences • Periodic Sequences • Polar Coordinates • Analytic Method for Plane Geometry • Synthetic Problems for Complex Numbers • Mathematical Induction (II) • Proof by Contradiction • Construction Method



Problems and Solutions in Mathematical Olympiad (High School 3)
By Hong-Bing Yu
ISBN 9781944660420 • PB • 380pp
Original Price US$48
Indian Edition at Rs 1595 • Year 2023

The series is edited by the head coaches of China's IMO National Team. Each volume, catering to different grades, is contributed by the senior coaches of the IMO National Team. The Chinese edition has won the award of Top 50 Most Influential Educational Brands in China. The series is created in line with the mathematics cognition and intellectual development levels of the students in the corresponding grades. All hot mathematics topics of the competition are included in the volumes and are organized into chapters where concepts and methods are gradually introduced to equip the students with necessary knowledge until they can finally reach the competition level.
In each chapter, well-designed problems including those collected from real competitions are provided so that the students can apply the skills and strategies they have learned to solve these problems. Detailed solutions are provided selectively. As a feature of the series, we also include some solutions generously offered by the members of Chinese national team and national training team.

Contents
Permutations and Combinations • Binomial Coefficients • Counting: Correspondence and Recursion • Counting: Inclusion-Exclusion Principle • Combinatorial Problems • Exact Division • Prime Numbers • Congruence (1) • Indeterminate (Diophantine) Equations (1) • Problems in Number Theory • Operations and Exact Division of Polynomials • Zeros of Polynomials • Polynomials with Integral Coefficients • Interpolation and Difference of Polynomials • Roots of Unity and Their Applications • Generating Function Method • Sets and Families of Subsets • Graph Theory Problems • Congruentce (2) • Indeterminate Equations (2) • Comprehensive Exercises



Problems and Solutions in Mathematical Olympiad (Secondary 1)
by Zun Shan
ISBN 9798886131239 • PB • 364pp
Original Price US$48
Indian Edition at Rs 1695 • Year 2025

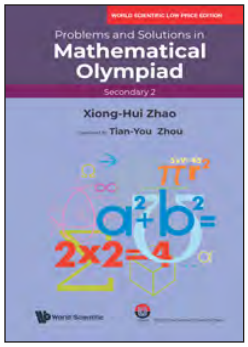
The series is edited by the head coaches of China's IMO National Team. Each volume, catering to different grades, is contributed by the senior coaches of the IMO National Team. The Chinese edition has won the award of Top 50 Most Influential Educational Brands in China.

The series is created in line with the mathematics cognition and intellectual development levels of the students in the corresponding grades. All hot mathematics topics of the competition are included in the volumes and are organized into chapters where concepts and methods are gradually introduced to equip the students with necessary knowledge until they can finally reach the competition level. In each chapter, well-designed problems including those collected from real competitions are provided so that the students can apply the skills and strategies they have learned to solve these problems.

Contents
- Ingenious Computation of Rational Numbers
- Absolute Value
- First-Degree Equation with One Variable
- System of First-Degree Equations
- Application of a System of First-Degree Equations
- Setting Up (Systems of) Equations to Solve Word Problems
- (System of) First-Degree Inequalities
- Multiplication and Division of Polynomials with Integer Coefficients
- Line Segments
- Angles
- Sum of the Interior Angles of a Triangle
- Parallel Lines

For complete table of contents, email us at marketing@feelbooks.in

Readership: Secondary school students engaged in mathematical competition, coaches in mathematics teaching, and teachers setting up math elective courses.

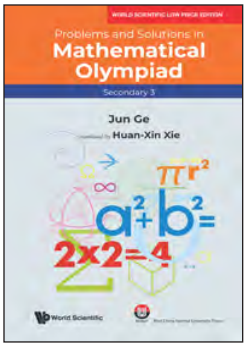


Problems and Solutions in Mathematical Olympiad (Secondary 2)
By Xiong-Hui Zhao
ISBN 9798886131413 • PB • 400pp
Original Price US$48
Indian Edition at Rs 1695 • Year 2025

The series is edited by the head coaches of China's IMO National Team. Each volume, catering to different grades, is contributed by the senior coaches of the IMO National Team. The Chinese edition has won the award of Top 50 Most Influential Educational Brands in China. The series is created in line with the mathematics cognition and intellectual development levels of the students in the corresponding grades. All hot mathematics topics of the competition are included in the volumes and are organized into chapters where concepts and methods are gradually introduced to equip the students with necessary knowledge until they can finally reach the competition level.

Contents
- Linear Equations with Absolute Values
- Linear Inequalities with Absolute Values
- Polynomial Factorization (I)
- Polynomial Factorization (II)
- Calculation of Rational Fractions
- Partial Fractions
- Polynomial Equations and Fractional Equations with Unknown Constants
- Real Numbers
- Quadratic Radicals
- Evaluating Algebraic Expressions
- Symmetric Polynomials
- Proof of Identities
- Linear Functions
- Inversely Proportional Functions
- Statistics
- The Sides and Angles of a Triangle
- Congruent Triangles
- Isosceles Triangles
- Right Triangles
- Parallelograms
- Trapezoids
- The Angles and Diagonals of a Polygon
- Proportion of Segments

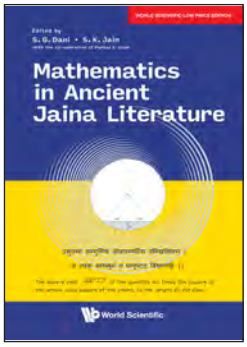
Readership: Secondary school students engaged in mathematical competition, coaches in mathematics teaching, and teachers setting up math elective courses.



Problems and Solutions in Mathematical Olympiad (Secondary 3)
By Jun Ge
ISBN 9781944660390 • PB • 456pp
Original Price US$48
Indian Edition at Rs 1695 • Year 2023

The series is edited by the head coaches of China's IMO National Team. Each volume, catering to different grades, is contributed by the senior coaches of the IMO National Team. The Chinese edition has won the award of Top 50 Most Influential Educational Brands in China. The series is created in line with the mathematics cognition and intellectual development levels of the students in the corresponding grades. All hot mathematics topics of the competition are included in the volumes and are organized into chapters where concepts and methods are gradually introduced to equip the students with necessary knowledge until they can finally reach the competition level. In each chapter, well-designed problems including those collected from real competitions are provided so that the students can apply the skills and strategies they have learned to solve these problems. Detailed solutions are provided selectively. As a feature of the series, we also include some solutions generously offered by the members of Chinese national team and national training team.

Contents
Quadratic Equations • Equations That Can Be Transformed Into Quadratic Equations • Discriminant of Quadratic Equation • Relationship Between Roots & Coefficients & Application • Simultaneous Quadratic Equations with Two Unknowns • Integer Roots of Quadratic Equation • Perfect Square Numbers • Quadratic Functions • Quadratic Inequalities • Distribution of Roots of Quadratic Equation • Maximum & Minimum Values of Quadratic Functions • Maximum & Minimum Values of Simple Fractional Functions • Trigonometric Functions of Acute Angle • Solving Right Triangles • Rotations • Basic Properties of Circles • Positional Relation Between Line & Circle • Positional Relation of Two Circles • Power of a Point Theorem • Four Concyclic Points • Problems of Geometric Fixed Value • Five Centers of a Triangle • Geometric Inequalities • Indefinite Equations • Reductio Ad Absurdum • Extreme Principle • Coloring Problems • Probability

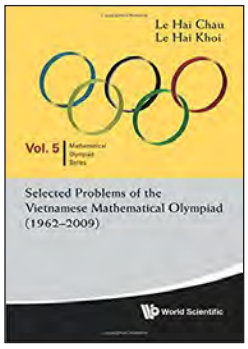


Mathematics in Ancient Jaina Literature
By S. G. Dani & S. K. Jain
ISBN 9798886130003 • HB • 248pp
Original Price US$98
Indian Edition at Rs 1695 • Year 2024

This monograph is a collection of articles on the mathematical concepts and knowledge found in ancient and medieval Jaina Literature. The material in the monograph is valuable for a course on History of Mathematics in he Department of Mathematics and Education in colleges and universities. The articles are aimed at a broader
audience interested in the History of Mathematics, serving as a reference book. The monograph contains twelve articles. Three of these articles relate to the development of ideas concerning arithmetic and geometry in the Jaina tradition over extended periods, and the rest of nine articles deal with specific themes that engage the Jaina
scholars in the course of their pursuits. In the two of the articles, 9 and 10, the readers will find connections to the modern topics like cryptography and logic in statistical thinking.

Contents
Decimal Numerals and Zero in Ancient Jaina literature • Evolution and Development of Mathematical Ideas through Jaina Scriptures • Geometry in Ancient Jaina Works; a Review • Partitions of Numbers Described in Bhagavatī Sūtra • Concept of Infinity in Jaina Literature • Geometry in Mahāvīrācārya's Gaṇitasārasaṅgraha • Kuṭṭīkāra Equations in Mahāvīrācārya's Gaṇitasārasaṅgraha • Series Summations in Śrīdhara and Mahāvīra's Works • Cryptography and Error-Detection in Siribhūvalaya • Jain Syllogism and Other Aspects of Jain Logic with Applications to Statistical Thinking • Zero in the Early Śvetāmbara Jaina Works • Jaina Mathematical Sources since the Eighth Century

Readership: Students and research scholars in History of Mathematics.



Selected Problems of the Vietnamese Mathematical Olympiad (1962–2009)
By Hai Chau Le & Hai Khoi Le
ISBN 9789814289597 • PB • 332pp
Original Price US$39
Indian Edition at Rs 795 • Year 2010

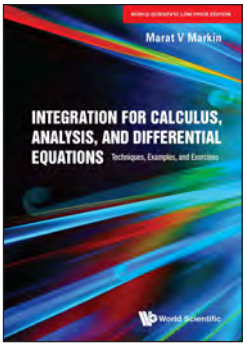
Vietnam has actively organized the National Competition in Mathematics and since 1962, the Vietnamese Mathematical Olympiad (VMO). On the global stage, Vietnam has also competed in the International Mathematical Olympiad (IMO) since 1974 and constantly emerged as one of the top ten.

To inspire and further challenge readers, we have gathered in this book problems of various degrees of difficulty of the VMO from 1962 to 2009.

The book is highly useful for high school students and teachers, coaches and instructors preparing for mathematical olympiads, as well as non-experts simply interested in having the edge over their opponents in mathematical competitions.

Contents
- The Gifted Students
- Basic Notions and Facts
- Problems
- Solutions
- Olympiad 2009

Readership: High school students and teachers, coaches and instructors of mathematical olympiads, non-experts interested in mathematical competitions.

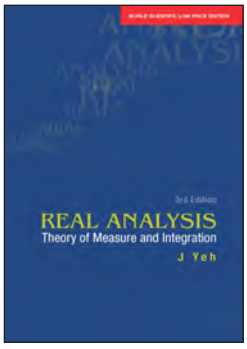


Integration for Calculus, Analysis, and Differential Equations
Techniques, Examples, and Exercises
By Marat V Markin
ISBN 9781944660093 • PB • 176pp
Original Price US$38
Indian Edition at Rs 995 • Year 2022

The book assists Calculus students to gain a better understanding and command of integration and its applications. It reaches to students in more advanced courses such as Multivariable Calculus, Differential Equations, and Analysis, where the ability to effectively integrate is essential for their success.
Keeping the reader constantly focused on the three principal epistemological questions: "What for?", "Why?", and "How?", the book is designated as a supplementary instructional tool and consists of
• 9 Chapters treating the three kinds of integral: indefinite, definite, and improper. Also covering various aspects of integral calculus from abstract definitions and theorems (with complete proof whenever appropriate) through various integration techniques to applications,
• 3 Appendices containing a table of basic integrals, reduction formulas, and basic identities of algebra and trigonometry.

Contents
Preface • Indefinite and Definite Integrals • Direct Integration • Method of Substitution • Method of Integration by Parts • Trigonometric Integrals • Trigonometric Substitutions • Integration of Rational Functions • Rationalizing Substitutions • Can We Integrate Them All Now? • Improper Integrals • Mixed Integration Problems • Answer Key • Appendices: Table of Basic Integrals • Reduction Formulas • Basic Identities of Algebra & Trigonometry • Bibliography • Index

Readership: Undergraduates, advanced undergraduates and members of the public with an interest in integration and its applications.



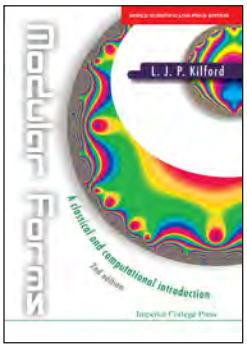
Real Analysis, 3rd Edition
Theory of Measure and Integration
By James Yeh
ISBN 9798886130485 • PB • 840pp
Original Price US$85
Indian Edition at Rs 2195 • Year 2024

This book presents a unified treatise of the theory of measure and integration. In the setting of a general measure space, every concept is defined precisely and every theorem is presented with a clear and complete proof with all the relevant details. Counter-examples are provided to show that certain conditions in the hypothesis of a theorem cannot be simply dropped. The dependence of a theorem on earlier theorems is explicitly indicated in the proof, not only to facilitate reading but also to delineate the structure of the theory. The precision and clarity of presentation make the book an ideal textbook for a graduate course in real analysis while the wealth of topics treated also make the book a valuable reference work for mathematicians.

The book is also very helpful to graduate students in statistics and electrical engineering, two disciplines that apply measure theory.

Contents
- Measure Spaces
- The Lebesgue Integral
- Differentiation and Integration
- The Classical Banach Spaces
- Extension of Additive Set Functions to Measures
- Measure and Integration on the Euclidean Space
- Hausdorff Measures on the Euclidean Space
- Appendices:
- Digital Expansions of Real Numbers
- Measurability of Limits and Derivatives
- Lipschitz Condition Bounded Derivatives
- Uniform Integrability
- Product-measurability and Factor-measurability
- Functions of Bounded Oscillation

Readership: Mathematicians and graduate students in analysis & differential equations.



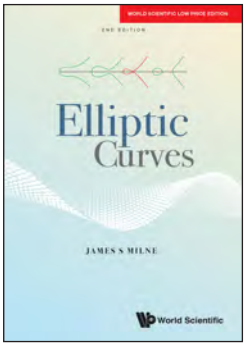
Modular Forms, 2nd Edition
A Classical and Computational Introduction
By L J P Kilford
ISBN 9798886130850 • PB • 252pp
Original Price US$78
Indian Edition at Rs 1295 • Year 2024

Modular Forms is a graduate student-level introduction to the classical theory of modular forms and computations involving modular forms, including modular functions and the theory of Hecke operators. It also includes applications of modular forms to various subjects, such as the theory of quadratic forms, the proof of Fermat's Last Theorem and the approximation of π. The text gives a balanced overview of both the theoretical and computational sides of its subject, allowing a variety of courses to be taught from it.

This second edition has been revised and updated. New material on the future of modular forms as well as a chapter about longer-form projects for students has also been added.

Contents
- Historical Overview
- Introduction to Modular Forms
- Results on Finite-Dimensionality
- The Arithmetic of Modular Forms
- Applications of Modular Forms
- Modular Forms in Characteristic *p*
- Computing with Modular Forms
- The Future of Modular Forms?
- Modular Forms Projects
- **Appendices:**
- Magma Code for Classical Modular Forms
- Sage Code for Classical Modular Forms
- Hints and Answers to Selected Exercises

Readership: Graduate students studying or taking a course in modular forms.



Elliptic Curves, 2nd Edition
By James S. Milne
ISBN 9798886130843 • PB • 320pp
Original Price US$58
Indian Edition at Rs 1650 • Year 2024

This book uses the beautiful theory of elliptic curves to introduce the reader to some of the deeper aspects of number theory. It assumes only a knowledge of the basic algebra, complex analysis, and topology usually taught in first-year graduate courses.

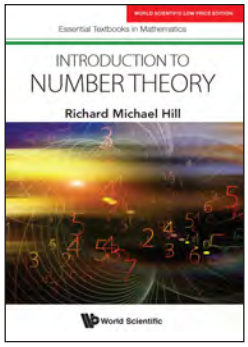
An elliptic curve is a plane curve defined by a cubic polynomial. Although the problem of finding the rational points on an elliptic curve has fascinated mathematicians since ancient times, it was not until 1922 that Mordell proved that the points form a finitely generated group. There is still no proven algorithm for finding the rank of the group, but in one of the earliest important applications of computers to mathematics, Birch and Swinnerton-Dyer discovered a relation between the rank and the numbers of points on the curve computed modulo a prime. Chapter IV of the book proves Mordell's theorem and explains the conjecture of Birch and Swinnerton-Dyer.

Every elliptic curve over the rational numbers has an L-series attached to it.Hasse conjectured that this L-series satisfies a functional equation, and in 1955 Taniyama suggested that Hasse's conjecture could be proved by showing that the L-series arises from a modular form. This was shown to be correct by Wiles (and others) in the 1990s, and, as a consequence, one obtains a proof of Fermat's Last Theorem. Chapter V of the book is devoted to explaining this work.

For this edition, the text has been completely revised and updated.

Contents
- Algebraic Curves
- Basic Theory of Elliptic Curves
- Elliptic Curves over the Complex Numbers
- The Arithmetic of Elliptic Curves
- Elliptic Curves and Modular Forms

Readership: Graduate students and lecturers in mathematics, specifically number theory courses.



Introduction to Number Theory
By Richard Michael Hill
ISBN 9780000988805 • PB • 264pp
Original Price US$58
Indian Edition at Rs 1295 • Year 2020

Introduction to Number Theory is dedicated to concrete questions about integers, to place an emphasis on problem solving by students. When undertaking a first course in number theory, students enjoy actively engaging with the properties and relationships of numbers.

The book begins with introductory material, including uniqueness of factorization of integers and polynomials. Subsequent topics explore quadratic reciprocity, Hensel's Lemma, p-adic powers series such as exp(px) and log(1+px), the Euclidean property of some quadratic rings, representation of integers as norms from quadratic rings, and Pell's equation via continued fractions. Throughout the five chapters and more than 100 exercises and solutions, readers gain the advantage of a number theory book that focuses on doing calculations. This textbook is a valuable resource for undergraduates or those with a background in university level mathematics.

Contents
- About the Author
- Acknowledgments
- Introduction
- Euclid's Algorithm
- Polynomial Rings
- Congruences Modulo Prime Numbers
- *p*-Adic Methods in Number Theory
- Diophantine Equations and Quadratic Rings
- Solutions to Exercises
- Bibliography
- Index

Readership: Students and educators in a university course on number theory.

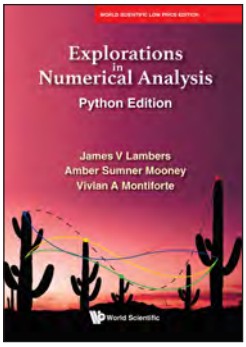
An Introduction to Numerical Computation, 2nd Edition
By Wen Shen
ISBN 9780000991553 • PB • 340pp
Original Price US$48
Indian Edition at Rs 1495 • Year 2024

This book serves as a set of lecture notes for a senior undergraduate level course on the introduction to numerical computation. The book covers many of the introductory topics for a first course in numerical computation, which fits in the short time frame of a semester course. Topics range from polynomial approximations and interpolation, to numerical methods for ODEs and PDEs. Emphasis was made more on algorithm development, basic mathematical ideas behind the algorithms, and the implementation in Matlab. The second edition contains a set of selected advanced topics, written in a self-contained manner, suitable for self-learning or as additional material for an honored version of the course. Videos are also available for these added topics.

The book is supplemented by two sets of videos, available through the author's YouTube channel. Homework problem sets are provided for each chapter, and complete answer sets are available for instructors upon request.

Contents
- Computer Arithmetic
- Polynomial Interpolation
- Piecewise Polynomial Interpolation: Splines
- Numerical Integration
- Numerical Solutions of Non-linear Equations
- Direct Methods for Systems of Linear Equations
- Fixed Point Iterative Solvers for Linear and Non-linear Systems
- The Method of Least Squares
- Numerical Solutions of ODEs
- Numerical Methods for Two-Point Boundary Value Problems
- Finite Difference Methods for Some Partial Differential Equations
- A Few Other Important Algorithms

Readership: Junior or senior undergraduate students interested in numerical computation and analysis, majoring in mathematics, computer science, physics, engineering, etc.

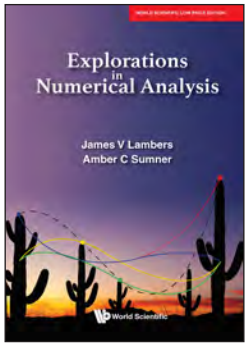


Explorations In Numerical Analysis: Python Edition
By James V Lambers *et al.*
ISBN 9780000990440 • PB • 692pp
Original Price US$68
Indian Edition at Rs 2195 • Year 2021

This textbook is intended to introduce advanced undergraduate and early-career graduate students to the field of numerical analysis. This field pertains to the design, analysis, and implementation of algorithms for the approximate solution of mathematical problems that arise in applications spanning science and engineering, and are not practical to solve using analytical techniques such as those taught in courses in calculus, linear algebra or differential equations.
Topics covered include computer arithmetic, error analysis, solution of systems of linear equations, least squares problems, eigenvalue problems, nonlinear equations, optimization, polynomial interpolation and approximation, numerical differentiation and integration, ordinary differential equations, and partial differential equations. For each problem considered, the presentation includes the derivation of solution techniques, analysis of their efficiency, accuracy and robustness, and details of their implementation, illustrated through the Python programming language. This text is suitable for a year-long sequence in numerical analysis, and can also be used for a one-semester course in numerical linear algebra.

Contents
- Preliminaries
- Numerical Linear Algebra
- Data Fitting and Function Approximation
- Nonlinear Equations and Optimization
- Differential Equations
- Appendices

Readership: Advanced undergraduate or beginning graduate students in mathematics for courses of numerical analysis, numerical linear algebra, numerical methods for differential equations, etc. Also good for researchers in science and engineering fields who require a working knowledge of numerical methods.

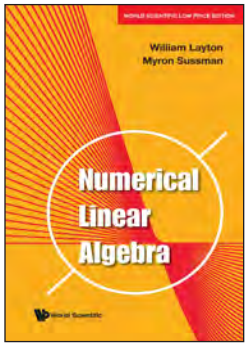


Explorations in Numerical Analysis
By James V Lambers & Amber C Sumner
ISBN 9780000988638 • PB • 676pp
Original Price US$68
Indian Edition at Rs 2195 • Year 2020

This textbook introduces advanced undergraduate and early-career graduate students to the field of numerical analysis. This field pertains to the design, analysis, and implementation of algorithms for the approximate solution of mathematical problems that arise in applications spanning science and engineering, and are not practical to solve using analytical techniques such as those taught in courses in calculus, linear algebra or differential equations. Topics covered include error analysis, computer arithmetic, solution of systems of linear equations, least squares problems, eigenvalue problems, polynomial interpolation and approximation, numerical differentiation and integration, nonlinear equations, optimization, ordinary differential equations, and partial differential equations. For each problem considered, the presentation includes the derivation of solution techniques, analysis of their efficiency, accuracy and robustness, and details of their implementation, illustrated through the MATLAB programming language. This text is suitable for a year-long sequence in numerical analysis, and can also be used for a one-semester course in numerical linear algebra.

Contents
- Preliminaries
- Numerical Linear Algebra
- Data Fitting and Function Approximation
- Nonlinear Equations and Optimization
- Differential Equations
- Appendices

Readership: Advanced undergraduate and graduate students in numerical analysis, approximations and expansions, linear and multilinear algebra/matrix theory and ordinary differential equations.



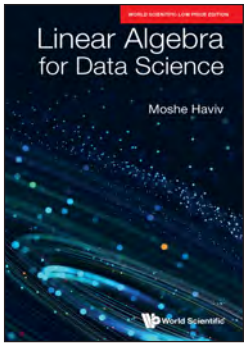
Numerical Linear Algebra
By William Layton & Myron Sussman
ISBN 9780000990402 • PB • 276pp
Original Price US$49
Indian Edition at Rs 1395 • Year 2021

Many students come to numerical linear algebra from science and engineering seeking modern tools and an understanding of how the tools work and their limitations. Often their backgrounds and experience are extensive in applications of numerical methods but limited in abstract mathematics and matrix theory. Often enough it is limited to multivariable calculus, basic differential equations and methods of applied mathematics. This book introduces modern tools of numerical linear algebra based on this background, heavy in applied analysis but light in matrix canonical forms and their algebraic properties. Each topic is presented as algorithmic ideas and through a foundation based on mostly applied analysis. By picking a path through the book appropriate for the level, it has been used for both senior level undergraduates and beginning graduate classes with students from diverse fields and backgrounds.

Contents

- Preface
- Preliminaries
- Module
- Determinants and Multilinear Algebras
- Inner Product Spaces
- Bilinear Forms and Decompositions
- Computational Linear Algebra

Readership: Senior undergraduate and first year graduate in areas related to numerical analysis.



Linear Algebra for Data Science
By Moshe Haviv
ISBN 9798886130775 • PB • 256pp
Original Price US$78
Indian Edition at Rs 1795 • Year 2024

This book serves as an introduction to linear algebra for undergraduate students in data science, statistics, computer science, economics, and engineering. The book presents all the essentials in rigorous (proof-based) manner, describes the intuition behind the results, while discussing some applications to data science along the way.

The book comes with two parts, one on vectors, the other on matrices. The former consists of four chapters: vector algebra, linear independence and linear subspaces, orthonormal bases and the Gram–Schmidt process, linear functions. The latter comes with eight chapters: matrices and matrix operations, invertible matrices and matrix inversion, projections and regression, determinants, eigensystems and diagonalizability, symmetric matrices, singular value decomposition, and stochastic matrices. The book ends with the solution of exercises which appear throughout its twelve chapters.

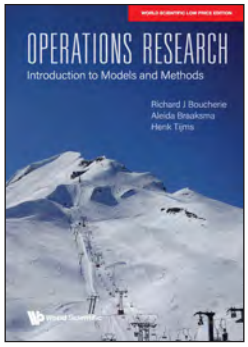
Contents

Vectors: Vector Algebra • Linear Independence and Linear Subspaces • Orthonormal Bases and the Gram–Schmidt Process • Linear Functions

Matrices: Matrices and Matrix Operations • Invertible Matrices and the Inverse Matrix • The Pseudo-Inverse Matrix, Projections and Regression • Determinants • Eigensystems and Diagonalizability • Symmetric Matrices • Singular Value Decomposition • Stochastic Matrices • Solutions to Exercises

Bibliography • Index

Readership: Undergraduate course in linear algebra as part of a major in data science, statistics, computer science, economics, and engineering.



Operations Research
Introduction to Models and Methods
By Richard Johannes Boucherie *et al.*
ISBN 9781944660079 • PB • 512pp
Original Price US$60
Indian Edition at Rs 1795 • Year 2022

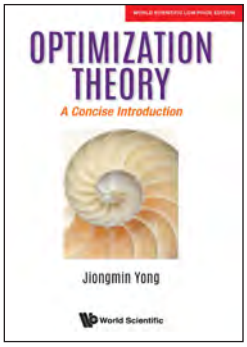
This attractive textbook with its easy-to-follow presentation provides a down-to-earth introduction to operations research for students in a wide range of fields such as engineering, business analytics, mathematics and statistics, computer science, and econometrics. It is the result of many years of teaching and collective feedback from students. The book covers the basic models in both deterministic and stochastic operations research and is a springboard to more specialized texts, either practical or theoretical. The emphasis is on useful models and interpreting the solutions in the context of concrete applications.

The text is divided into several parts. The first three chapters deal exclusively with deterministic models, including linear programming with sensitivity analysis, integer programming and heuristics, and network analysis. The next three chapters primarily cover basic stochastic models and techniques, including decision trees, dynamic programming, optimal stopping, production planning, and inventory control. The final five chapters contain more advanced material, such as discrete-time and continuous-time Markov chains, Markov decision processes, queueing models, and discrete-event simulation. Each chapter contains numerous exercises, and a large selection of exercises includes solutions.

Contents

Preface • Linear Programming • Integer Programming • Network Analysis • Decision Trees • Dynamic Programming • Inventory Management • Discrete-Time Markov Chains • Continuous-Time Markov Chains • Queueing Theory • Markov Decision Processes • Simulation • Appendices: Complexity Theory • Useful Formulas for the Normal Distribution • The Poisson Process • Answers to Selected Exercises

Readership: Undergraduate students in operations research, engineering, business analytics, mathematics, computer science, econometrics and quantitative economics.

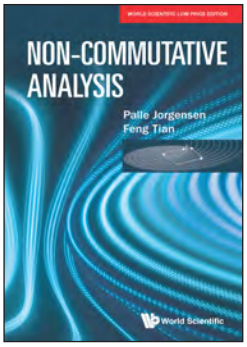


Optimization Theory
A Concise Introduction
By Jiongmin Yong
ISBN 9780000988935 • PB • 236pp
Original Price US$78
Indian Edition at Rs 1195 • Year 2020

Mathematically, most of the interesting optimization problems can be formulated to optimize some objective function, subject to some equality and/or inequality constraints. This book introduces some classical and basic results of optimization theory, including nonlinear programming with Lagrange multiplier method, the Karush–Kuhn–Tucker method, Fritz John's method, problems with convex or quasi-convex constraints, and linear programming with geometric method and simplex method. A slim book such as this which touches on major aspects of optimization theory will be very much needed for most readers. We present nonlinear programming, convex programming, and linear programming in a self-contained manner. This book is for a one-semester course for upper level undergraduate students or first/second year graduate students. It should also be useful for researchers working on many interdisciplinary areas other than optimization.

Contents
Mathematical Preparation (including Basics of Euclidean Space, Linear Algebra, Limits, Continuity, and Differentiability of Functions)
Optimization Problems and Existence of Optimal Solutions
Necessary and Sufficient Conditions of Optimal Solutions (including Problems with No Constraint, with Equality Constraints, and with Equality and Inequality Constraints)
Problems with Convexity & Quasi-Convexity Conditions (including Convex Sets and Convex Functions, Optimization Problems with Convex and Quasi-Convex Constraints, Lagrange Duality)
Linear Programming (including Geometric Method, Simplex Method, Sensitivity Analysis, and Duality Theory)

Readership: Undergraduates: graduates and researchers interested in classical and basic optimization theory.



Non-Commutative Analysis
By Palle Jorgensen & Feng Tian
ISBN 9798886130492 • PB • 564pp
Original Price US$88
Indian Edition at Rs 1895 • Year 2024

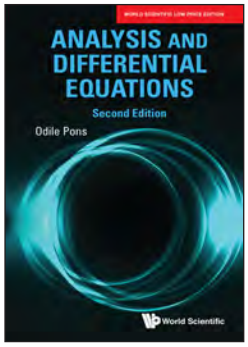
The book features new directions in analysis, with an emphasis on Hilbert space, mathematical physics, and stochastic processes. We interpret "non-commutative analysis" broadly to include representations of non-Abelian groups, and non-Abelian algebras; emphasis on Lie groups and operator algebras (C* algebras and von Neumann algebras.)

A second theme is commutative and non-commutative harmonic analysis, spectral theory, operator theory and their applications. The list of topics includes shift invariant spaces, group action in differential geometry, and frame theory (over-complete bases) and their applications to engineering (signal processing and multiplexing), projective multi-resolutions, and free probability algebras.

The book serves as an accessible introduction, offering a timeless presentation, attractive and accessible to students, both in mathematics and in neighboring fields.

Contents
- Introduction and Motivation
- Topics from Functional Analysis and Operators in Hilbert Space: A Selection
- Applications
- Extension of Operators
- Appendices

Readership: Undergraduates, graduate students and researchers in operator theory, functional analysis, mathematical physics, complex analysis, stochastic analysis, quantum mechanics.



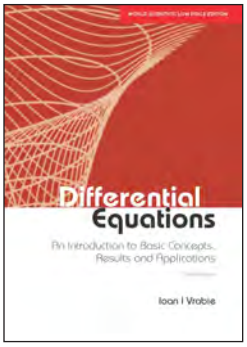
Analysis and Differential Equations, 2nd Edition
An Introduction to Basic Concepts, Results and Applications
By Odile Pons
ISBN 9798886131031 • PB • 304pp
Original Price US$98
Indian Edition at Rs 1495 • Year 2024

The book presents advanced methods of integral calculus and optimization, the classical theory of ordinary and partial differential equations and systems of dynamical equations. It provides explicit solutions of linear and nonlinear differential equations, and implicit solutions with discrete approximations.

The main changes of this second edition are: the addition of theoretical sections proving the existence and the unicity of the solutions for linear differential equations on real and complex spaces and for nonlinear differential equations defined by locally Lipschitz functions of the derivatives, as well as the approximations of nonlinear parabolic, elliptic, and hyperbolic equations with locally differentiable operators which allow to prove the existence of their solutions; furthermore, the behavior of the solutions of differential equations under small perturbations of the initial condition or of the differential operators is studied.

Contents
- Introduction
- Expansions with Orthogonal Polynomials
- Differential and Integral Calculus
- Linear Differential Equations
- Linear Differential Equations in $\mathbb{R}^p$
- Partial Differential Equations
- Special Functions
- Solutions

Readership: Undergraduate and graduate students in mathematics courses of analysis and differential calculus; researchers in mathematics.



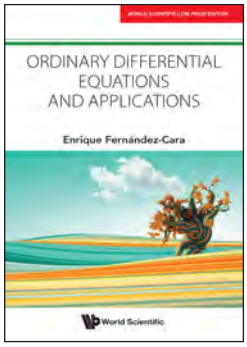
Differential Equations, 3rd Edition
An Introduction to Basic Concepts, Results and Applications
By Ioan I Vrabie
ISBN 9798886130126 • PB • 528pp
Original Price US$45
Indian Edition at Rs 1795 • Year 2024

This book presents, in a unitary frame and from a new perspective, the main concepts and results of one of the most fascinating branches of modern mathematics, namely differential equations, and offers the reader another point of view concerning a possible way to approach the problems of existence, uniqueness, approximation, and continuation of the solutions to a Cauchy problem. In addition, it contains simple introductions to some topics which are not usually included in classical textbooks: the exponential formula, conservation laws, generalized solutions, Caratheodory solutions, differential inclusions, variational inequalities, viability, invariance, and gradient systems.

In this new edition, some typos have been corrected and two new topics have been added: Delay differential equations and differential equations subjected to nonlocal initial conditions. The bibliography has also been updated and expanded.

Contents
- Generalities
- The Cauchy Problem
- Approximation Methods
- Systems of Linear Differential Equations
- Elements of Stability
- Prime Integrals
- Extensions and Generalizations
- Volterra Equations
- Calculus of Variations
- Nonlocal Problems
- Delay Functional Differential Equations
- Auxiliary Results

Readership: Graduate or undergraduate students dealing with analysis and differential equations, Volterra equations, calculus of variations and mathematical modeling.



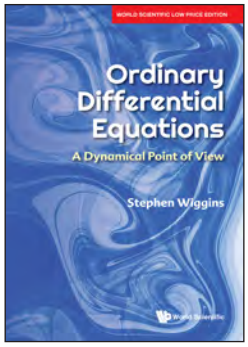
Ordinary Differential Equations & Applications
By Enrique Fernández-Cara
ISBN 9798886130935 • PB • 352pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2024

Differential equations can bring mathematics to life, describing phenomena originating in physics, chemistry, biology, economics, and more. Used by scientists and engineers alike, differential equations are also the starting point of much purely mathematical activity. This book aims to provide a rigorous introduction to the theoretical study of differential equations, and to demonstrate their utility with applications in many fields.

Ordinary Differential Equations and Applications originates from several courses given by the author for decades at the University of Seville. It aims to bring together rigorous mathematical theory and the rich variety of applications for differential equations. The book examines many aspects of differential equations: their existence, uniqueness, and regularity, alongside their continuous dependence on data and parameters. Delving into permanent interpretation of the laws of differential equations, we also look at the role of data and how their solutions behave. Each chapter finishes with a collection of exercises, many of which also contain useful hints.

Contents
Introduction • Basic Concepts • The Cauchy Problem: Local Analysis • Uniqueness • The Cauchy Problem: Global Analysis • Cauchy Problems and Linear Systems • Boundary-Value Problems for Linear Systems • Some Regularity Results • Stability Results • The Method of Characteristics for First-Order Linear and Quasi-Linear Partial Differential Equations • Basic Ideas in Control Theory • Additional Notes • References

Readership: Undergraduate and graduate students, especially those interested by the role played by differential equations in mathematics and science in general.



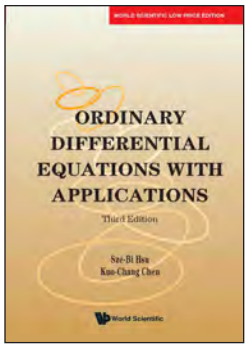
Ordinary Differential Equations
A Dynamical Point Of View
By Stephen Wiggins
ISBN 9798886130904 • PB • 196pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2024

Ordinary Differential Equations is a standard course in the undergraduate mathematics curriculum that usually comes after the first university calculus and linear algebra courses taken by a mathematics major. Such courses may also typically be attended by undergraduates from other areas of physical and social sciences, and engineering. The content of such a course has remained fairly static over time, despite the expansion of the topic into other disciplines as a result of the dynamical systems point of view.

This core undergraduate course updated from the dynamical systems perspective can easily be covered in one semester, with room for projects or more advanced topics tailored to the interests of the students.

Contents
Getting Started: The Language of ODEs • Special Structure and Solutions of ODEs • Behavior Near Trajectories and Invariant Sets: Stability • Behavior Near Trajectories: Linearization • Behavior Near Equilibria: Linearization • Stable and Unstable Manifolds of Hyperbolic Equilibria • Lyapunov's Method and the LaSalle Invariance Principle • Bifurcation of Equilibria, I • Bifurcation of Equilibria, II • Center Manifold Theory • Jacobians, Inverses of Matrices, and Eigenvalues • Integration of Some Basic Linear ODEs • Solutions of Some Second Order ODEs Arising in Applications: Newton's Equations • Finding Lyapunov Functions • Center Manifolds Depending on Parameters • Dynamics of Hamilton's Equations • A Brief Introduction to the Characteristics of Chaos • Bibliography • Index

Readership: Undergraduate students in mathematics, physical science, social science, and engineering that use ordinary differential equations.



Ordinary Differential Equations with Applications, 3rd Edition
By Sze-Bi Hsu & Kuo-Chang Chen
ISBN 9781944660840 • PB • 380pp
Original Price US$68
Indian Edition at Rs 1395 • Year 2023

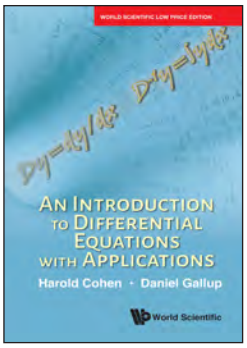
Written in a straightforward and easily accessible style, this volume is suitable as a textbook for advanced undergraduate or first-year graduate students in mathematics, physical sciences, and engineering. It is also a valuable resource for researchers.

This volume presents an abundance of examples in physical and biological sciences, and engineering to illustrate the applications of the theorems in the text. Readers are introduced to some important theorems in Nonlinear Analysis, for example, Brouwer fixed point theorem and fundamental theorem of algebras. A chapter on Monotone Dynamical Systems takes care of the new developments in Ordinary Differential Equations and Dynamical Systems.

In this third edition, an introduction to Hamiltonian Systems is included to enhance and complete its coverage on Ordinary Differential Equations with applications in Mathematical Biology & Classical Mechanics.

Contents
- Introduction
- Fundamental Theory
- Linear Systems
- Stability of Nonlinear Systems
- Method of Lyapunov Functions
- Two-Dimensional Systems
- Second Order Linear Equations
- The Index Theory and Brouwer Degree
- Perturbation Methods
- Introduction to Monotone Dynamical Systems
- Introduction to Hamiltonian Systems

Readership: Advanced undergraduate and graduate students in mathematics, applied mathematics, physical sciences and engineering. Researchers in the fields of ordinary differential equations and dynamical systems.



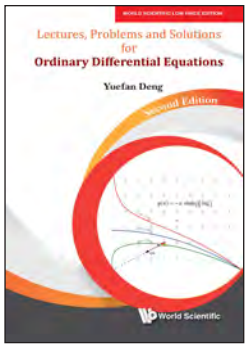
An Introduction to Differential Equations with Applications
By Harold Cohen & Daniel Gallup
ISBN 9780000990297 • PB • 816pp
Original Price US$168
Indian Edition at Rs 2195 • Year 2021

This book is for students in a first course in ordinary differential equations. The material is organized so that the presentations begin at a reasonably introductory level. Subsequent material is developed from this beginning. As such, readers with little experience can start at a lower level, while those with some experience can use the beginning material as a review, or skip this part to proceed to the next level.

The book contains methods of approximation to solutions of various types of differential equations with practical applications, which will serve as a guide to programming so that such differential equations can be solved numerically with the use of a computer. Students who intend to pursue a major in engineering, physical sciences, or mathematics will find this book useful.

Contents
Introduction • First Order Differential Equations • Approximation Methods for First Order Differential Equations • Applications of First Order Differential Equations • Linear Differential Equations with Constant Coefficients • Series Solutions to First Order Linear Differential Equations • Series Solutions to Second Order Homogeneous Differential Equations • Approximation Methods for Second Order Homogeneous Differential Equations • Special Functions and Sturm–Liouville Equations • Definition and Properties of Laplace Transforms • Solutions to Differential Equations by Laplace Transform Methods • Systems of Linear Differential Equations • Approximate Solutions to Coupled First Order Linear Differential Equations

Readership: Undergraduate students studying mathematics, physics, engineering, business, economics and banking who are interested in the practical applications of differential equations.

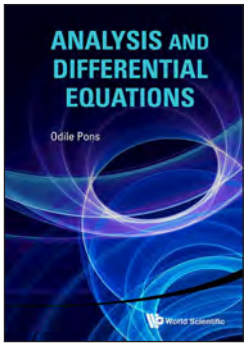


Lectures, Problems and Solutions for Ordinary Differential Equations, 2nd Edition
By Yuefan Deng
ISBN 9780000988829 • PB • 572pp
Original Price US$58
Indian Edition at Rs 1495 • Year 2020

This unique book on ordinary differential equations addresses practical issues of composing and solving differential equations by demonstrating the detailed solutions of more than 1,000 examples. The initial draft was used to teach more than 10,000 advanced undergraduate students in engineering, physics, economics, as well as applied mathematics. It is a good source for students to learn problem-solving skills and for educators to find problems for homework assignments and tests. The 2nd edition, with at least 100 more examples and five added subsections, has been restructured to flow more pedagogically.

Contents
Preface
First-Order Differential Equations
Mathematical Models
Linear DEs of Higher Order
Systems of Linear DEs
Laplace Transforms
Appendices:
Solutions to Problems
Laplace Transforms
Basic Formulas
Abbreviations
References
Index

Readership: Undergraduate students and entry level graduate students in science and engineering who need to solve and compose ordinary differential equations.



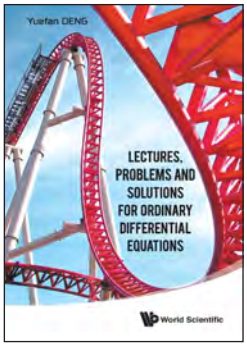
Analysis and Differential Equations
By Odile Pons
ISBN 9789814740531 • PB • 256pp
Original Price US$75
Indian Edition at Rs 995 • Year 2015

This book presents advanced methods of integral calculus and the classical theory of the ordinary and partial differential equations. It provides explicit solutions of linear and nonlinear differential equations and implicit solutions with discrete approximations. Differential equations that could not be explicitly solved are discussed with special functions such as Bessel functions. New functions are defined from differential equations. Laguerre, Hermite and Legendre orthonormal polynomials as well as several extensions are also considered.

It is illustrated by examples and graphs of functions, with each chapter containing exercises solved in the last chapter.

Contents
- Introduction
- Expansions with Orthogonal Polynomials
- Differential and Integral Calculus
- Linear Differential Equations
- Linear Differential Equations in $\mathbb{R}^p$
- Partial Differential Equations
- Special Functions
- Solutions

Readership: Undergraduate and graduate students in mathematics.

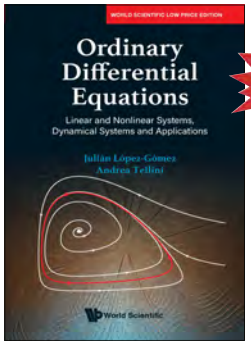


Lectures, Problems and Solutions for Ordinary Differential Equations
By Yuefan Deng
ISBN 9789814632256 • PB • 532pp
Original Price US$65
Indian Edition at Rs 1095 • Year 2015

This unique book on ordinary differential equations addresses practical issues of composing and solving such equations by large number of examples and homework problems with solutions. These problems originate in engineering, finance, as well as science at appropriate levels that readers with the basic knowledge of calculus, physics or economics are assumed able to follow.

Contents
- First-Order Differential Equations
- Mathematical Models
- Linear DEs of Higher Order
- Systems of Linear DEs
- Laplace Transforms
- Appendices:
- Solutions to Selected Problems
- Laplace Transforms
- Derivatives & Integrals
- Abbreviations
- Teaching Plans

Readership: Undergraduate students and entry level graduate students in science and engineering who need to solve and compose ordinary differential equations.



NEW

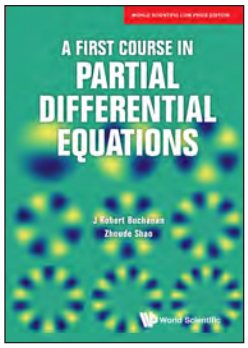
Ordinary Differential Equations
Linear And Nonlinear Systems, Dynamical Systems And Applications
By Julián López-Gómez & Andrea Tellini
ISBN 9798886131703 • PB • 752pp
Original Price US$88
Indian Edition at Rs 2695 • Year 2026

The theory of ordinary differential equations is addressed in detail in this textbook, and is split into three sections: linear equations and systems, the general theory of nonlinear systems, and the theory of dynamical systems. These topics can be taken together or studied independently.

This is a self-contained, rigorous treatment of ordinary differential equations that is complemented by a variety of illustrating examples of the theory in practice. Many of these examples are related to models in Physics and Applied Sciences, making them suitable for students in Physics, Chemistry, Engineering, Mathematical Biology, Economics and Ecology as well as in Mathematics. Each chapter contains exercises to test students' understanding of the topic and concludes with some historical notes and further discussions.

Contents
- Linear Systems:
- First-Order Linear Systems
- First-Order Linear Systems with Constant Coefficients
- First-Order Linear Systems with Holomorphic Coefficients
- Nonlinear Systems:
- An Introduction to Nonlinear Differential • Equations
- Cauchy–Lipschitz Theory
- High-Order Nonlinear Equations
- Peano Theory
- Method of Sub- and Supersolutions
- Dynamical Systems:
- Some Paradigmatic Dynamical Systems
- Newtonian Planar Conservative Systems
- Non-Conservative Systems

Readership: Readership: This book is targeted at undergraduate and graduate students in Mathematics, and professors in this subject. It would also be suitable for undergraduate and graduate students and professors in Physics, Chemistry, Engineering, Mathematical Biology, Economics and Ecology.



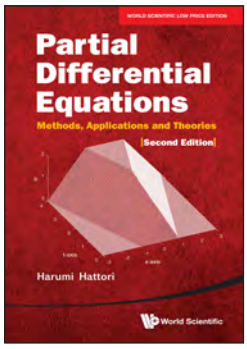
A First Course in Partial Differential Equations
By J Robert Buchanan & Zhoude Shao
ISBN 9780000988355 • PB • 624pp
Original Price US$68
Indian Edition at Rs 1695 • Year 2020

This textbook gives an introduction to Partial Differential Equations (PDEs), for any reader wishing to learn and understand the basic concepts, theory, and solution techniques of elementary PDEs. The only prerequisite is an undergraduate course in Ordinary Differential Equations. This work contains a comprehensive treatment of the standard second-order linear PDEs, the heat equation, wave equation, and Laplace's equation. First-order and some common nonlinear PDEs arising in the physical and life sciences, with their solutions, are also covered.

This textbook includes an introduction to Fourier series and their properties, an introduction to regular Sturm–Liouville boundary value problems, special functions of mathematical physics, a treatment of nonhomogeneous equations and boundary conditions using methods such as Duhamel's principle, and an introduction to the finite difference technique for the numerical approximation of solutions. All results have been rigorously justified or precise references to justifications in more advanced sources have been cited. Appendices providing a background in complex analysis and linear algebra are also included for readers with limited prior exposure to those subjects.

Contents
Introduction • First-Order Partial Differential Equations • Fourier Series • The Heat Equation • The Wave Equation • Laplace's Equation • Sturm-Liouville Theory • Special Functions • Applications of PDEs in the Physical Sciences • Nonhomogeneous Initial Boundary Value Problems • Nonlinear Partial Differential Equations • Numerical Solutions to PDEs Using Finite Differences • Appendices: Complex Arithmetic and Calculus • Linear Algebra Primer

Readership: Mathematics, physical and life sciences, and engineering undergraduate students interested in partial differential equations.



Partial Differential Equations, 2nd Edition
Methods, Applications and Theories
By Harumi Hattori
ISBN 9781944660185 • PB • 428pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2022

This is an introductory level textbook for partial differential equations (PDEs). It is suitable for a one-semester undergraduate level or two-semester graduate level course in PDEs or applied mathematics. This volume is application-oriented and rich in examples. Going through these examples, the reader is able to easily grasp the basics of PDEs.

Chapters One to Five are organized to aid understanding of the basic PDEs. They include the first-order equations and the three fundamental second-order equations, i.e. the heat, wave and Laplace equations. Through these equations, we learn the types of problems, how we pose the problems, and the methods of solutions such as the separation of variables and the method of characteristics. The modeling aspects are explained as well. The methods introduced in earlier chapters are developed further in Chapters Six to Twelve. They include the Fourier series, the Fourier and the Laplace transforms, and the Green's functions. Equations in higher dimensions are also discussed in detail. In this second edition, a new chapter is added and numerous improvements have been made including the reorganization of some chapters. Extensions of nonlinear equations treated in earlier chapters are also discussed. Partial differential equations are becoming a core subject in Engineering and the Sciences. This textbook will greatly benefit those studying in these subjects by covering basic and advanced topics in PDEs based on applications.

Contents
First and Second Order Linear Equations - Preparation • Heat Equation • Wave Equation • Laplace Equation • First Order Equations • Fourier Series and Eigenvalue Problems • Separation of Variables in Higher Dimensions • More Separation of Variables • Fourier Transform • Laplace Transform • Green's Functions • Applications

The Mischief of Math
Short Stories of Clowns, Contortionists, and Court-Jesters
By Inavamsi Enaganti, Nivedita Ganesh, and Bud Mishra
ISBN 9798886131086 • PB • 200pp
Original Price US$25
Indian Edition at Rs 1195 • Year 2024

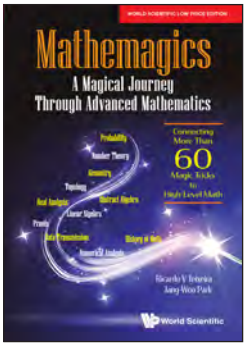
Embark on a whimsical odyssey through the realms of ethics in AI bots, logic, game theory, paradoxes, biases, fake data detection, graph theory, and so much more! Within these pages you'll find a collection of fictional short stories that weave together the intriguing, the counterintuitive and the downright quirky with bold characters from every walk of life.

Contents
The Archipelago of Serene Deep:
- When Pigs Fly: Scientific Experimentation & Cascading Errors
- Ultra-Altruism: Economic Stability
- Fakebook: Fake Data, Privacy, AI Bots, & Signalling Games
- Deadly Serious Party: Political Establishment

Pandemic Pandemonium:
- The Forever Virus: Hypothesizing
- Ending the Forever Virus: Policy & Deployment

Counterintuitive Chaos:
- Explosive Logic: Logical Fallacies
- Concrete Evidence: Number Tricks
- Existential Overload: Morality & Ethics
- Blue Album: Applied Mathematics
- Infinity and Beyond: Abstract Mathematics

Readership: All undergraduate and students in the second half of high school, particularly in the fields of mathematics, computer science, engineering, economics, business, political science, and social science; General public who are curious about the intricacies and counterintuitive nature of reality.



Mathemagics: A Magical Journey Through Advanced Mathematics
Connecting More Than 60 Magic Tricks to High-Level Math
By Ricardo V Teixeira and Jang-Woo Park
ISBN 9798886130737 • PB • 408pp
Original Price US$48
Indian Edition at Rs 2795 • Year 2024

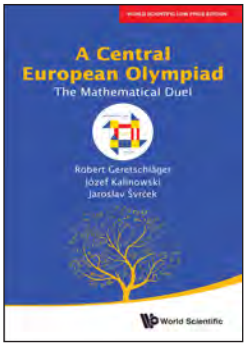
"This delightful book connects mathematical concepts in a dozen areas to magic tricks. Expositions of the mathematics precede description and analysis of the tricks. The expositions are too short for in-depth learning; the intent is to give sophomores a taste of the content and ideas of later mathematics courses. Each chapter features exercises on the mathematics, and students can have fun practicing the tricks."
— *Mathematics Magazine*

Teixeira and Park present over 60 different magic tricks while introducing students to high-level math areas. Readers will learn really interesting ideas that will better prepare them for future courses and help them finding areas they might want to study deeper. And as a "side effect" students will learn amazing magic tricks, century-old secrets, and details from famous magicians and mathematicians.

Topics covered include mathematical proofs, probability, abstract algebra, linear algebra, mathematical computing, number theory, coding theory, geometry, topology, real analysis, numerical analysis and history of math.

Contents
- Mathematical Proofs
- Probability
- Abstract Algebra
- Linear Algebra
- Mathematical Computing
- Number Theory
- Coding Theory
- Geometry
- Topology
- Real Analysis
- Numerical Analysis
- History of Math

Readership: High school and college students, general public.



A Central European Olympiad
The Mathematical Duel
By Robert Geretschläger, Józef Kalinowski & Jaroslav Švrček
ISBN 9798886130430 • PB • 292pp
Original Price US$38
Indian Edition at Rs 1195 • Year 2024

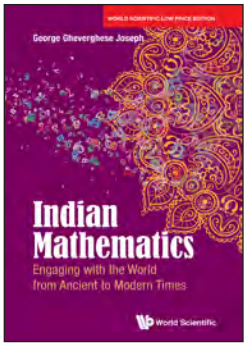
This book contains the most interesting problems from the first 24 years of the "Mathematical Duel", an annual international mathematics competition between the students of four schools: the Gymnázium Mikuláše Koperníka in Bílovec, Czech Republic, the Akademicki Zespół Szkół Ogólnokształcących in Chorzów, Poland, the Bundesrealgymnasium Kepler in Graz, Austria and the Gymnázium Jakuba Škody in Přerov, Czech Republic.

The problems are presented by topic, grouped under the headings Geometry, Combinatorics, Number Theory and Algebra, which is typical for olympiad-style competitions.

Above all, it is of interest to students preparing for mathematics competitions as well as teachers looking for material to prepare their students, as well as mathematically interested enthusiasts from all walks of life looking for an intellectual challenge.

Contents
- Introduction
- Number Theory
- Algebra
- Combinatorics
- Geometry
- 4! Years of Problems

Readership: General public, students and teachers preparing for olympiad-style mathematical competitions.



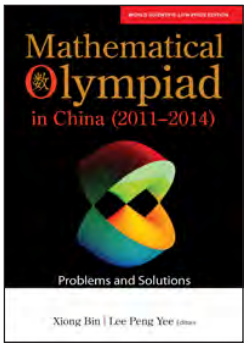
Indian Mathematics
Engaging with the World from Ancient to Modern Times
By George Gheverghese Joseph
ISBN 9781944660307 • PB • 512pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2016

Indian Mathematics gives a unique insight into the history of mathematics within a historical global context. It builds on research into the connection between mathematics and the world-wide advancement of economics and technology. Joseph draws out parallel developments in other cultures and carefully examines the transmission of mathematical ideas across geographical and cultural borders.

Accessible to those who have an interest in the global history of mathematical ideas, for the historians, philosophers and sociologists of mathematics, it is a book not to be missed.

Contents
Rewriting the History of Indian Mathematics: Some Outstanding Issues • Indian Mathematics in World Mathematics: An Overview • The Harappa-Vedic Nexus: A Seamless Story or Two Separate Episodes? • From Zero to Infinity: Mathematics in Jain and Buddhist Literature • Down to Earth and Reach for the Stars: The Bakhshali and Siddhanta Episodes • Heralding the Golden Age: Aryabhata I and His Followers • Riding the Crest of a Wave: From Brahmagupta to Mahavira • The 500 Year Climax: Bhaskaracharya and His Legacy • Navigating the Ocean of Mathematics: Narayana Pandita and Successors • A Passage to Infinity: The Kerala School and Its Impact • Indian Trigonometry: From Ancient Beginnings to Nilakantha • Outside the Sanskrit Tradition: Texts, Translations and Dissemination • Battle for the Mind: The Rise of Western Mathematics

Readership: General audience who have an interest in the global history of mathematical ideas, historians, philosophers and sociologists of mathematics.



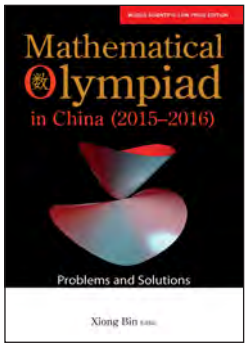
Mathematical Olympiad in China (2011–2014)
Problems and Solutions
By Bin Xiong & Peng Yee Lee
ISBN 9798886130447 • PB • 368pp
Original Price US$38
Indian Edition at Rs 1295 • Year 2024

The International Mathematical Olympiad (IMO) is a very important competition for high school students. China has taken part in the IMO 31 times since 1985 and has won the top ranking for countries 19 times, with a multitude of gold medals for individual students.

This book includes the problems and solutions of the most important mathematical competitions from 2010 to 2014 in China, such as China Mathematical Competition, China Mathematical Olympiad, China Girls' Mathematical Olympiad. These problems are almost exclusively created by the experts who are engaged in mathematical competition teaching and researching. Some of the solutions are from national training team and national team members, their wonderful solutions being the feature of this book. This book is useful to mathematics fans, middle school students engaged in mathematical competition, coaches in mathematics teaching and teachers setting up math elective courses.

Contents
- Introduction
- China Mathematical Competition (2010–2013)
- China Mathematical Completion (Complementary Test) (2010–2013)
- China Mathematical Olympiad (2011–2014)
- China National Team Selection Test (2011–2014)
- China Girls' Mathematical Olympiad (2010–2013)
- China Western Mathematical Olympiad (2010–2013)
- China Southeastern Mathematical Olympiad (2010–2013)
- International Mathematical Olympiad (2011–2014)

Readership: Mathematics students, school teachers, college lecturers, university professors; mathematics enthusiasts.



Mathematical Olympiad in China (2015–2016)
Problems and Solutions
By Bin Xiong
ISBN 9781944660765 • PB • 208pp
Original Price US$28
Indian Edition at Rs 1095 • Year 2023

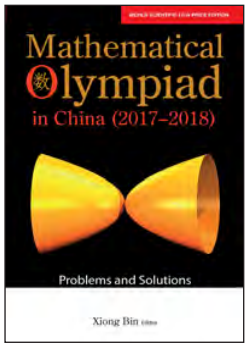
In China, lots of excellent maths students takes an active part in various maths contests and the best six senior high school students will be selected to form the IMO National Team to compete in the International Mathematical Olympiad. In the past ten years China's IMO Team has achieved outstanding results — they have always been among the top 3, in fact in the first place most of the time.

The authors of this book are coaches of the China national team. They are Xiong Bin, Yao Yijun, Qu Zhenhua, et al. The translator of this book is Chen Xiaomin.

The materials of this book come from a series of two books (in Chinese) on Forward to IMO: A Collection of Mathematical Olympiad Problems (2015–2016). It is a collection of problems and solutions of the major mathematical competitions in China. It provides a glimpse of how the China national team is selected and formed.

Contents
- Introduction
- China Mathematical Competition
- China Mathematical Competition (Complementary Test)
- China Mathematical Olympaid
- China National Team Selection Test
- China Girls' Mathematical Olympiad
- China Western Mathematical Olympiad
- China Southeastern Mathematical Olympiad
- International Mathematical Olympiad

Readership: Mathematics students, school teachers, college lecturers, university professors; mathematics enthusiasts.



Mathematical Olympiad in China (2017–2018)
Problems and Solutions
By Bin Xiong
ISBN 9798886130201 • PB • 300pp
Original Price US$38
Indian Edition at Rs 1695 • Year 2024

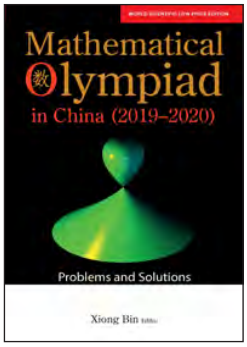
In China, lots of excellent maths students take an active part in various maths contests and the best six senior high school students will be selected to form the IMO National Team to compete in the International Mathematical Olympiad. In the past ten years China's IMO Team has achieved outstanding results — they won the first place almost every year.

The authors of this book are coaches of the China national team. They are Xiong Bin, Yao Yijun, Qu Zhenhua, et al. Those who took part in the translation work are Wang Shanping and Chen Haoran.

The materials of this book come from a series of two books (in Chinese) on *Forward to IMO: A Collection of Mathematical Olympiad Problems* (2017–2018). It is a collection of problems and solutions of the major mathematical competitions in China. It provides a glimpse of how the China national team is selected and formed.

Contents
- China Mathematical Competition
- China Mathematical Competition (Complementary Test)
- China Mathematical Olympiad
- China National Team Selection Test
- China Girls' Mathematical Olympiad
- China Western Mathematical Olympiad
- China Southeastern Mathematical Olympiad
- International Mathematical Olympiad

Readership: Mathematics students, school teachers, college lecturers, university professors; mathematics enthusiasts.



Mathematical Olympiad in China (2019–2020)
Problems and Solutions
By Bin Xiong
ISBN 9798886130218 • PB • 300pp
Original Price US$38
Indian Edition at Rs 1695 • Year 2024

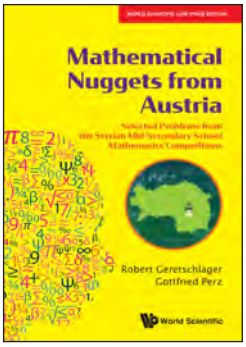
In China, lots of excellent maths students take an active part in various maths contests and the best six senior high school students will be selected to form the IMO National Team to compete in the International Mathematical Olympiad. In the past ten years China's IMO Team has achieved outstanding results — they won the first place almost every year.

The authors of this book are coaches of the China national team. They are Xiong Bin, Yao Yijun, Qu Zhenhua et al. Those who took part in the translation work are Zhao Wei and Zhou Tianyou.

The materials of this book come from a series of two books (in Chinese) on *Forward to IMO: A Collection of Mathematical Olympiad Problems* (2019–2020). It is a collection of problems and solutions of the major mathematical competitions in China. It provides a glimpse of how the China national team is selected and formed.

Contents
China Mathematical Competition
China Mathematical Competition (Complementary Test)
China Mathematical Olympiad
China National Team Selection Test
China Girls' Mathematical Olympiad
China Western Mathematical Olympiad
China Southeastern Mathematical Olympiad
International Mathematical Olympiad

Readership: Mathematics students, school teachers, college lecturers, university professors; mathematics enthusiasts.

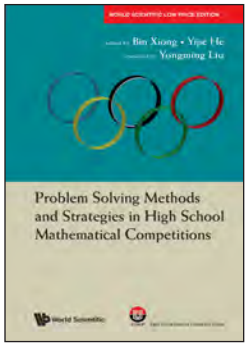


Mathematical Nuggets from Austria
Selected Problems from the Styrian Mid-Secondary School Mathematics Competitions
By Robert Geretschläger
ISBN 9798886130393 • PB • 412pp
Original Price US$36
Indian Edition at Rs 1395 • Year 2024

This book is composed of the most interesting problems from a quarter century of regional mathematics competitions for students aged 11–14 in the province of Styria, Austria. The problems presented here range from pure puzzles to a more traditional mathematical type of question, but all are somehow special, posed with the intent of giving the reader something interesting to think about, with the promise of an entertaining moment of elucidation and enlightenment at the end.

Contents
- Number Digits
- A Little Bit of Algebra — Word Problems and Variables
- Building with Bricks and Blocks
- Sports
- Circles
- Logic
- Fractions
- Percentages
- Our Three-Dimensional World
- Money
- Its About Time
- Letter Puzzles and Digit Puzzles
- How Far, How Fast, How Long
- Triangles
- Quadrilaterals and Polygons
- Divisibility
- Cutting and Tiling
- Sequences
- Counting Things

Readership: Students, Teachers, Adults interested in solving mathematical puzzles, Trainers for Math Competitions.



Problem Solving Methods and Strategies in High School Mathematical Competitions
By Bin Xiong & Yijie He
ISBN 9798886130379 • PB • 300pp
Original Price US$38
Indian Edition at Rs 1350 • Year 2024

This book not only introduces important methods and strategies for solving problems in mathematics competition, but also discusses the basic principles behind them and the mathematical way of thinking.

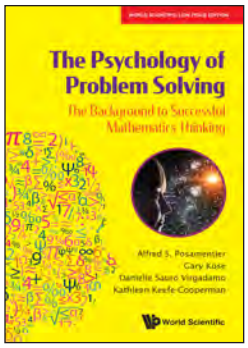
It may be used as a valuable textbook for a mathematics competition course or a mathematics education course at undergraduate and graduate level. It can also serve as a reference book for students and teachers in primary and secondary schools.

The materials of this book come from a book series of Mathematical Olympiad Competition. It is a collection of problems and solutions of the major mathematical competitions in China. The translation is done by Yongming Liu.

The authors are mathematical competition teachers and researchers, many China's national team coaches and national team leaders. Many techniques and approaches in the book come directly from their own research results.

Contents
Methods of Reduction • Proofs by Contradiction • Inductive Methods • The Drawer Principle • Inclusion–Exclusion Principle • Extreme Principle • Parity • Area Methods • Thinking Globally • Proper Representations • Combine Numbers and Figures • Correspondence and Pairing • Recurrence • Colouring • Assignment Methods • Calculate in Two Ways • Stepwise Adjustment • Methods of Construction • Invariants and Monovariants • Graph Theory Method • Solutions for the Exercises

Readership: Senior high school students and math teachers, undergraduate in mathematics, amateurs interested in mathematics.



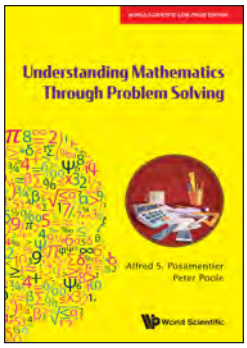
The Psychology of Problem Solving
The Background to Successful Mathematics Thinking
By Alfred S Posamentier, Gary Kose, Danielle Sauro Virgadamo, & Kathleen Keefe-Cooperman
ISBN 9798886130423 • PB • 160pp
Original Price US$68
Indian Edition at Rs 1195 • Year 2024

The art or skill of problem solving in mathematics is mostly relegated to the strategies one can use to solve problems in the field. Although this book addresses that issue, it delves deeply into the psychological aspects that affect successful problem-solving. Such topics as decision-making, judgment, and reasoning as well as using memory effectively and a discussion of the thought processes that could help address certain problem-solving situations.

Most books that address problem-solving and mathematics focus on the various skills. This book goes beyond that and investigates the psychological aspects to solving problems in mathematics.

Contents
- Introduction
- A Brief History of Problem Solving
- Exploring the Problem Space: Problem-Solving Strategies
- Judgement, Reasoning, and Decisions
- Disinterest and Anxiety Versus Motivation and Confidence
- Inattention and Forgetfulness Versus Focused Attention and Working Memory
- Thinking Forward and Backward: Intuitive and Deliberative Thought
- Endnotes
- Index

Readership: Students, researchers, and general public.



Understanding Mathematics Through Problem Solving
By Alfred S Posamentier & Peter Poole
ISBN 9798886130294 • PB • 532pp
Original Price US$48
Indian Edition at Rs 1495 • Year 2024

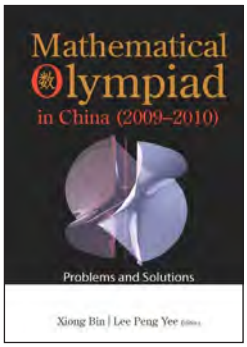
This book will present a collection of mathematical problems — lighthearted in nature — intended to entertain the general readership. Problems will be selected largely for the unusual and unexpected solutions to which they lend themselves. Some interesting contents included:

- counterintuitive solutions to simple mathematical problems;
- entertaining mathematical problems;
- important and useful mathematical solutions to problems;
- problem solutions for mathematics to general usage;
- visual mathematical problems;
- timely mathematical problems.

All in all, the book is meant to entertain the general readership and to convince them about the power and beauty of mathematics.

Contents
- Problem Solving in Mathematics
- Entertaining Mathematical Problems
- Counterintuitive Solutions to Simple Mathematical Problems
- Important and Useful Mathematical Solutions to Problems
- Problem Solving for Mathematics in General Usage
- Visual Mathematical Problems

Readership: General readership in mathematics.

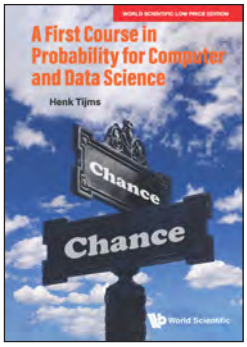


Mathematical Olympiad in China (2009-2010)
Problems and Solutions
Edited By: Bin Xiong & Peng Yee Lee
ISBN 9789814390217 • PB • 204pp
Original Price US$29
Indian Edition at Rs 795 • Year 2013

The International Mathematical Olympiad (IMO) is a competition for high school students. China has taken part in the IMO 21 times since 1985 and has won the top ranking for countries 14 times, with a multitude of golds for individual students. The six students China has sent every year were selected from 20 to 30 students among approximately 130 students who took part in the annual China Mathematical Competition during the winter months. This volume of comprises a collection of original problems with solutions that China used to train their Olympiad team in the years from 2009 to 2010. Mathematical Olympiad problems with solutions for the years 2002–2008 appear in an earlier volume, Mathematical Olympiad in China.

Contents
- 2008–2009 China Mathematical Competition
- 2008–2009 China Mathematical Competition (Complementary Test)
- 2009–2010 China Mathematical Olympiad
- 2009–2010 China National Team Selection Test
- 2008–2009 China Girls' Mathematical Olympiad
- 2008–2009 China Western Mathematical Olympiad
- 2009–2010 China Southeastern Mathematical Olympiad
- 2009–2010 International Mathematical Olympiad

Readership: Mathematics students, school teachers, college lecturers, university professors; mathematics enthusiasts.



A First Course in Probability for Computer and Data Science
By Henk Tijms
ISBN 9798886130942 • PB • 244pp
Original Price US$48
Indian Edition at Rs 1295 • Year 2024

In this undergraduate text, the author has distilled the core of probabilistic ideas and methods for computer and data science. The book emphasizes probabilistic and computational thinking rather than theorems and proofs. It provides insights and motivates the students by telling them why probability works and how to apply it.

The unique features of the book are as follows:

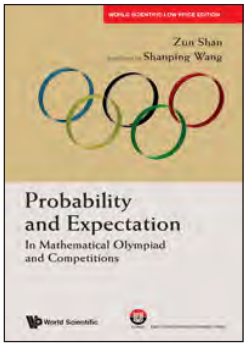
- Bayesian probability with real-life cases in law and medicine;
- Logistic regression and naïve Bayes;
- Real-world applications of probability;
- Interweaving Monte Carlo simulation and probability;
- Gentle introduction to Markov chains and Markov chain Monte Carlo simulation.

This book contains many worked examples. Numerous instructive problems scattered throughout the text are given along with problem-solving strategies. Several of the problems extend previously covered material. Answers to all problems and worked-out solutions to selected problems are also provided.

Henk Tijms is the author of several textbooks in the area of applied probability and stochastic optimization. In 2008, he received the prestigious INFORMS Expository Writing Award for his work. He also contributed engaging probability puzzles to *The New York Times*' former Numberplay column.

Contents

Readership: Undergraduate students in computer and data science, business analytics, and operations research. Data scientists working at companies.



Probability and Expectation
In Mathematical Olympiad and Competitions
By Zun Shan
ISBN 9798886130454 • PB • 208pp
Original Price US$28
Indian Edition at Rs 1195 • Year 2024

In China, lots of excellent students who are good at maths take an active part in various maths contests and the best six senior high school students will be selected to form the IMO National Team to compete in the International Mathematical Olympiad. In the past ten years China's IMO Team has achieved outstanding results — they have won the first place almost every year.

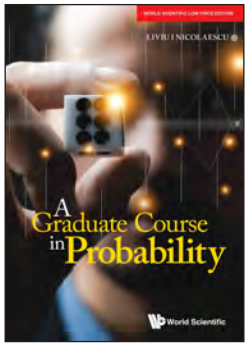
The author is one of the senior coaches of China's IMO National Team, whose students have won many gold medals many times in IMO.

This book is part of the *Mathematical Olympiad Series* which discusses several aspects related to maths contests, such as algebra, number theory, combinatorics, graph theory and geometry. This book will, in an interesting problem-solving way, explain what probability theory is: its concepts, methods and meanings; particularly, two important concepts — probability and mathematical expectation (briefly expectation) — are emphasized. It consists of 65 problems, appended by 107 exercises and their answers.

Contents

For complete table of contents, email us at marketing@feelbooks.in

Readership: Senior high school students engaged in math contests, math teachers, undergraduates of math major and math enthusiasts.

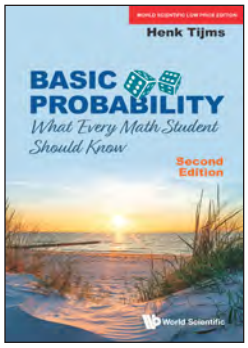


A Graduate Course in Probability
By Liviu I Nicolaescu
ISBN 9781944660680 • PB • 560pp
Original Price US$148
Indian Edition at Rs 2095 • Year 2023

This book grew out of the notes for a one-semester basic graduate course in probability. As the title suggests, it is meant to be an introduction to probability and could serve as textbook for a year long text for a basic graduate course. The book covers the topics that are part of the culture of an aspiring probabilist and it is guided by the author's personal belief that probability was and is a theory driven by examples. The examples form the main attraction of this subject. For this reason, a large book is devoted to an eclectic collection of examples, from classical to modern, from mainstream to "exotic". The text is complemented by nearly 200 exercises, quite a few nontrivial, but all meant to enhance comprehension & enlarge the reader's horizons.

Contents

Readership: Graduate students, advanced undergraduates, mathematicians.



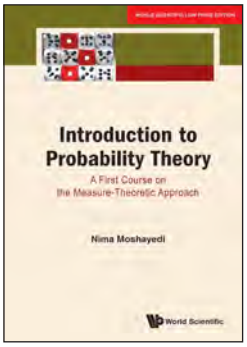
Basic Probability, 2nd Edition
What Every Math Student Should Know
By Henk Tijms
ISBN 9781944660543 • PB • 184pp
Original Price US$34
Indian Edition at Rs 1195 • Year 2023

The second edition represents an ongoing effort to make probability accessible to students in a wide range of fields such as mathematics, statistics and data science, engineering, computer science, and business analytics. The book is written for those learning about probability for the first time. Revised and updated, the book is aimed specifically at statistics and data science students who need a solid introduction to the basics of probability. While retaining its focus on basic probability, including Bayesian probability and the interface between probability and computer simulation, this edition's significant revisions are as follows:

- Many extra motivational examples and problems
- New material on Bayesian probability, including two famous court cases
- New sections on real-world applications of the Poisson distribution
- New sections on generating functions and the bivariate normal density
- New chapter on Markov chains, including Markov chain Monte Carlo simulation

The approach followed in the book is to develop probabilistic intuition before diving into details. The best way to learn probability is by practising on a lot of problems. Many instructive problems together with problem-solving strategies are given. Answers to all problems and worked-out solutions to selected problems are also provided.

Contents
Preface
Combinatorics and Calculus for Probability
Basics of Probability
Useful Probability Distributions
Real-Life Examples of Poisson Probabilities
Monte Carlo Simulation and Probability
A Primer on Markov Chains
Solutions to Selected Problems
Index



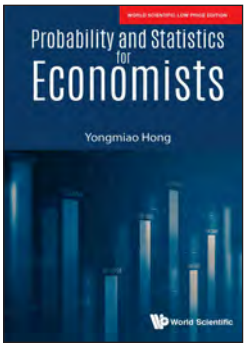
Introduction to Probability Theory
A First Course on the Measure-Theoretic Approach
By Nima Moshayedi
ISBN 9781944660802 • PB • 292pp
Original Price US$88
Indian Edition at Rs 1395 • Year 2023

This book provides a first introduction to the methods of probability theory by using the modern and rigorous techniques of measure theory and functional analysis. It is geared for undergraduate students, mainly in mathematics and physics majors, but also for students from other subject areas such as economics, finance and engineering. It is an invaluable source, either for a parallel use to a related lecture or for its own purpose of learning it.

The first part of the book gives a basic introduction to probability theory. The second part is devoted to some more sophisticated methods such as conditional expectations, martingales and Markov chains. These notions will be fairly accessible after reading the first part.

Contents
Preface
Acknowledgments
The Modern Probability Language:
Elements of Combinatorial Analysis and Simple Random Walks
The Modern Probability Language
Conditional Expectations, Martingales and Markov Chains:
Conditional Expectations
Martingales
Markov Chains
Appendices:
Basics of Measure Theory
Basics of Integration Theory
Bibliography
Index

Readership: Undergraduate students in mathematics and physics majors, particularly those taking any first course in probability theory. Undergraduate students in economy, finance, engineering or any other subject that includes probability theory in the curriculum (e.g., biology, chemistry).



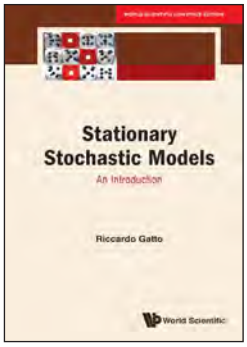
Probability and Statistics for Economists
By Yongmiao Hong
ISBN 9798886130072 • PB • 592pp
Original Price US$118
Indian Edition at Rs 1795 • Year 2024

Probability and Statistics have been widely used in various fields of science, including economics. Like advanced calculus and linear algebra, probability and statistics are indispensable mathematical tools in economics. Statistical inference in economics, namely econometric analysis, plays a crucial methodological role in modern economics, particularly in empirical studies in economics.

This textbook covers probability theory and statistical theory in a coherent framework that will be useful in graduate studies in economics, statistics and related fields. As a most important feature, this textbook emphasizes intuition, explanations and applications of probability and statistics from an economic perspective.

Contents
- Preface
- Introduction to Probability and Statistics
- Foundation of Probability Theory
- Random Variables and Univariate Probability Distributions
- Important Probability Distributions
- Multivariate Probability Distributions
- Introduction to Sampling Theory
- Convergences and Limit Theorems
- Parameter Estimation and Evaluation
- Hypothesis Testing
- Classical Linear Regression
- Conclusion
- Bibliography
- Index

Readership: Graduate students in economics, statistics and related fields.



Stationary Stochastic Models
by Riccardo Gatto
ISBN 9798886131178 • PB • 416pp
Original Price US$138
Indian Edition at Rs 1750 • Year 2025

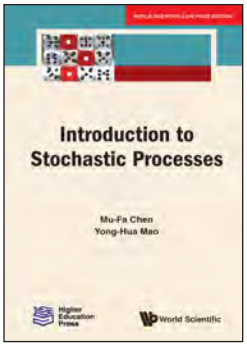
This volume provides a unified mathematical introduction to stationary time series models and to continuous time stationary stochastic processes. The analysis of these stationary models is carried out in time domain and in frequency domain. It begins with a practical discussion on stationarity, by which practical methods for obtaining stationary data are described. The presented topics are illustrated by numerous examples. Readers will find the following covered in a comprehensive manner:

- Autoregressive & moving average time series.
- Important properties such as causality.
- Autocovariance function and the spectral distribution of these models.
- Practical topics of time series like filtering and prediction.
- Basic concepts and definitions on the theory of stochastic processes, such as Wiener measure and process.
- General types of stochastic processes such as Gaussian, selfsimilar, compound and shot noise processes.
- Gaussian white noise, Langevin equation and Ornstein–Uhlenbeck process.
- Important related themes such as mean square properties of stationary processes and mean square integration.
- Spectral decomposition and spectral theorem of continuous time stationary processes. This central concept is followed by the theory of linear filters and their differential equations.

Contents

- Introduction
- Stationary Time Series
- Stationary Processes with Continuous Time
- Selected Topics on Stationary Models
- Appendices

Readership: Upper-level undergraduate and graduate students, for lectures on time series or on stochastic processes with continuous time. Researchers in academia and applied scientists in the industry, in the field of time series or stationary processes. These lectures can be given to students of mathematics or statistics as well as to students from other technical fields, at Bachelor's upper-level and at Master's level.



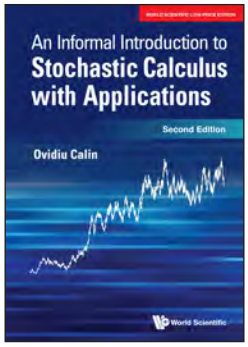
Introduction to Stochastic Processes
By Mu-Fa Chen and Yong-Hua Mao
ISBN 9781944660512 • PB • 244pp
Original Price US$78
Indian Edition at Rs 1395 • Year 2023

The objective of this book is to introduce the elements of stochastic processes in a rather concise manner where we present the two most important parts — Markov chains and stochastic analysis. The readers are led directly to the core of the main topics to be treated in the context. Further details and additional materials are left to a section containing abundant exercises for further reading and studying.

In the part on Markov chains, the focus is on the ergodicity. By using the minimal nonnegative solution method, we deal with the recurrence and various types of ergodicity. This is done step by step, from finite state spaces to denumerable state spaces, and from discrete time to continuous time. The methods of proofs adopt modern techniques, such as coupling and duality methods. Some very new results are included, such as the estimate of the spectral gap. The structure and proofs in the first part are rather different from other existing textbooks on Markov chains.

In the part on stochastic analysis, we cover the martingale theory and Brownian motions, the stochastic integral and stochastic differential equations with emphasis on one dimension, and the multidimensional stochastic integral and stochastic equation based on semimartingales. We introduce three important topics here: the Feynman–Kac formula, random time transform and Girsanov transform. As an essential application of the probability theory in classical mathematics, we also deal with the famous Brunn–Minkowski inequality in convex geometry.

This book also features modern probability theory that is used in different fields, such as MCMC, or even deterministic areas: convex geometry and number theory. It provides a new and direct routine for students going through the classical Markov chains to the modern stochastic analysis.



An Informal Introduction to Stochastic Calculus with Applications, 2nd Edition
By Ovidiu Calin
ISBN 9781944660277 • PB • 512pp
Original Price US$78
Indian Edition at Rs 2295 • Year 2022

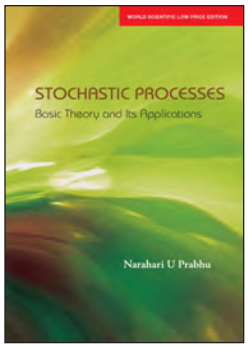
The goal of this book is to present Stochastic Calculus at an introductory level and not at its maximum mathematical detail. The author's goal was to capture as much as possible the spirit of elementary deterministic Calculus, at which students have been already exposed. This assumes a presentation that mimics similar properties of deterministic Calculus, which facilitates understanding of more complicated topics of Stochastic Calculus.

The second edition contains several new features that improved the first edition both qualitatively and quantitatively. First, two more chapters have been added, Chapter 12 and Chapter 13, dealing with applications of stochastic processes in Electrochemistry and global optimization methods.

This edition contains also a final chapter material containing fully solved review problems and provides solutions, or at least valuable hints, to all proposed problems. The present edition contains a total of about 250 exercises.

Contents

List of Notations and Symbols
• Basics of Stochastic Calculus:
A Few Introductory Problems
Basic Notions
Useful Stochastic Processes
Properties of Stochastic Processes
Stochastic Integration
Stochastic Differentiation
Stochastic Integration Techniques
Stochastic Differential Equations
• Applications of Stochastic Calculus:
Applications of Brownian Motion
Girsanov's Theorem and Brownian Motion
Miscellaneous Applications
Applications to Electrochemistry
Methods of Global Optimization
Review Problems
Hints and Solutions
Bibliography and Index

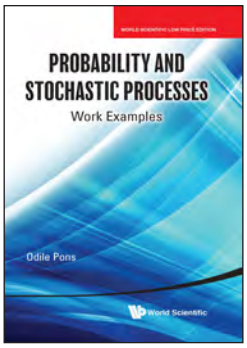


Stochastic Processes
Basic Theory and its Applications
By Narahari U Prabhu
ISBN 9781944659868 • PB • 356pp
Original Price US$99
Indian Edition at Rs 1395 • Year 2022

Most introductory textbooks on stochastic processes which cover standard topics such as Poisson process, Brownian motion, renewal theory and random walks deal inadequately with their applications. Written in a simple and accessible manner, this book addresses that inadequacy and provides guidelines and tools to study the applications. The coverage includes research developments in Markov property, martingales, regenerative phenomena and Tauberian theorems, and covers measure theory at an elementary level.

Contents
A Review of Probability Distributions and Their Properties
Definition and Characteristics of a Stochastic Process
Some Important Classes of Stochastic Processes
Stationary Processes
The Brownian Motion and the Poisson Process: Lévy Processes
Renewal Processes and Random Walks
Martingales in Discrete Time
Branching Processes
Regenerative Phenomena
Markov Chains
Tauberian Theorems
Some Asymptotic Relations

Readership: Beginning graduate students in pure applied mathematics, engineering and management science; researchers in applied science



Probability and Stochastic Processes
Work Examples
By Odile Pons
ISBN 9780000989253 • PB • 260pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2020

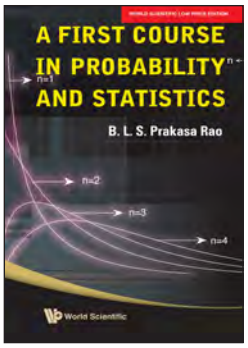
The book is intended to undergraduate students, it presents exercices and problems with rigorous solutions covering the mains subject of the course with both theory and applications.

The questions are solved using simple mathematical methods: Laplace and Fourier transforms provide direct proofs of the main convergence results for sequences of random variables.

The book studies a large range of distribution functions for random variables and processes: Bernoulli, multinomial, exponential, Gamma, Beta, Dirichlet, Poisson, Gaussian, Chi2, ordered variables, survival distributions and processes, Markov chains and processes, Brownian motion and bridge, diffusions, spatial processes.

Contents
Probability Measures and Spaces
Probability Distributions
Generating Function and Discrete Distributions
Laplace Transform and Characteristic Function
Continuous Distributions
Empirical Processes and Weak Convergence
Discrete Martingales and Stopping Times
Time-Continuous Martingales
Jump Processes
Continuous Processes

Readership: Undergraduate students interested in more advanced statistics.



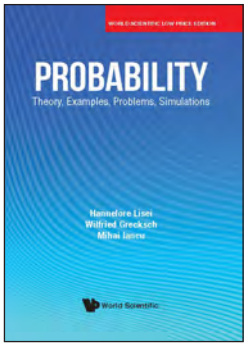
A First Course in Probability and Statistics
By B L S Prakasa Rao
ISBN 9780000988683 • PB • 332pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2020

Explanation of the basic concepts and methods of statistics requires a reasonably good mathematical background, at least at a first-year-level knowledge of calculus. Most of the statistical software explain how to conduct data analysis, but do not explain when to apply and when not to apply it. Keeping this in view, we try to explain the basic concepts of probability and statistics for students with an understanding of a first course in calculus at the undergraduate level.

Designed as a textbook for undergraduate and first-year graduate students in statistics, bio-statistics, social sciences and business administration programs as well as undergraduates in engineering sciences and computer science programs, it provides a clear exposition of the theory of probability along with applications in statistics. The book contains a large number of solved examples and chapter-end exercises designed to reinforce the probability theory and emphasize statistical applications.

Contents
Why Statistics?
Probability on Discrete Sample Spaces
Discrete Probability Distributions
Continuous Probability Distributions
Multivariate Probability Distributions
Functions of Random Vectors
Approximations to Some Probability Distributions
Estimation
Interval Estimation and Testing of Hypotheses
Linear Regression and Correlation

Readership: Advanced undergraduate and first-year graduate students in mathematics, statistics, bio-statistics, social sciences and business administration programs as well as undergraduates in engineering and computer science programs.



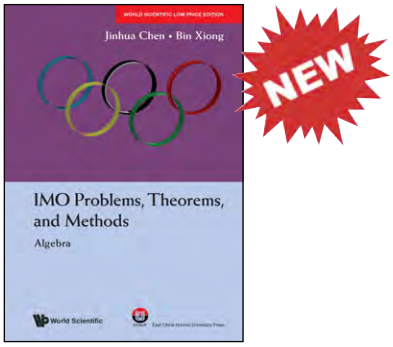
Probability
Theory, Examples, Problems, Simulations
By Hannelore Lisei, Wilfried Grecksch & Mihai Iancu
ISBN 9780000989260 • PB • 364pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2020

A key pedagogical feature of the textbook is the accessible approach to probability concepts through examples with explanations and problems with solutions. The reader is encouraged to simulate in Matlab random experiments and to explore the theoretical aspects of the probabilistic models behind the studied experiments. By this appropriate balance between simulations and rigorous mathematical approach, the reader can experience the excitement of comprehending basic concepts and can develop the intuitive thinking in solving problems. The current textbook does not contain proofs for the stated theorems, but corresponding references are given.

Moreover, the given Matlab codes and detailed solutions make the textbook accessible to researchers and undergraduate students, by learning various techniques from probability theory and its applications in other fields. This book is intended not only for students of mathematics but also for students of natural sciences, engineering, computer science and for science researchers, who possess the basic knowledge of calculus for the mathematical concepts of the textbook and elementary programming skills for the Matlab simulations.

Contents
Preface • Probability Space • Random Variables and Vectors • Numerical Characteristics of Random Variables and Vectors • Sequences of Random Variables • Examples of Stochastic Processes • Appendix • Bibliography • Index

Readership: Undergraduate and graduate students, professionals and researchers in mathematics, natural sciences, engineering and computer science areas.



IMO Problems, Theorems, and Methods
Algebra
By Jinhua Chen & Bin Xiong
ISBN 9798886131796 • PB • 388pp
Original Price US$38
Indian Edition at Rs 1495 • Year 2026

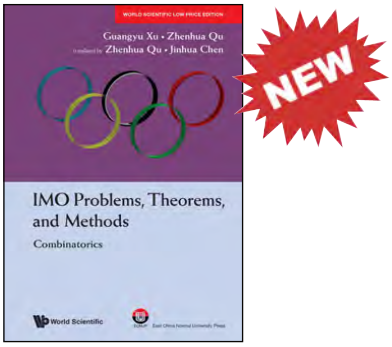
The problems in the International Mathematical Olympiad (IMO) are not only novel and interesting but also deeply rooted in profound mathematical context. The team at the International Mathematical Olympiad Research Center at East China Normal University has compiled and studied problems from past IMOs, dividing them into four volumes based on the mathematical fields involved: algebra, geometry, number theory, and combinatorics.

In the algebra volume, the IMO algebra problems are organized into five chapters: "Equation Problems," "Function Problems," "Sequence Problems," "Inequality Problems," and "Other Algebra Problems." Each chapter begins with an introduction to the relevant foundational knowledge and methods, followed by a reclassification and reorganization of past IMO problems. Multiple elegant solutions are provided for some of the problems, along with a statistical analysis of their difficulty.

The book concludes with a record of past IMO participation and award information, as well as an index of algebra problems, facilitating further study and convenient reference. This series is suitable for researchers in mathematical competitions, mathematics educators, and contestants.

Contents
- Introduction to the IMO
- Equation Problems
- Function Problems
- Sequence Problems
- Inequality Problems
- Other Algebra Problems
- IMO General Information
- IMO Algebra Problem Index

Readership: Students engaged in mathematical competition, coaches in mathematics teaching, and teachers setting up math elective courses.



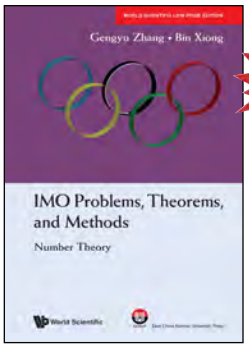
IMO Problems, Theorems, and Methods
Combinatorics
By Guangyu Xu, *et al.*
ISBN 9798886131802 • PB • 272pp
Original Price US$28
Indian Edition at Rs 1295 • Year 2026

The problems in the International Mathematical Olympiad (IMO) are not only novel and interesting but also deeply rooted in profound mathematical context. The team at the International Mathematical Olympiad Research Center at East China Normal University has compiled and studied problems from past IMOs, dividing them into four volumes based on the mathematical fields involved: algebra, geometry, number theory, and combinatorics.

In the combinatorics volume, the IMO combinatorics problems are organized into six chapters: "Enumerative Combinatorics Problems," "Existence Problems," "Extremal Combinatorial Problems," "Operation and Logical Reasoning Problems," "Combinatorial Geometry Problems," and "Graph Theory Problems." Each chapter begins with an introduction to the relevant foundational knowledge and methods, followed by a reclassification and reorganization of past IMO problems. Multiple elegant solutions are provided for some of the problems, along with a statistical analysis of their difficulty.

Contents
• Introduction to the IMO • Enumerative Combinatorics Problems • Existence Problems • Extremal Combinatorial Problems • Operation and Logical Reasoning Problems • Combinatorial Geometry Problems • Graph Theory Problems • IMO General Information • IMO Combinatorics Problem Index

Readership: Students engaged in mathematical competition, coaches in mathematics teaching, and teachers setting up math elective courses.



IMO Problems, Theorems, and Methods
Number Theory
By Gengyu Zhang & Bin Xiong
ISBN 9798886131819 • PB • 204pp
Original Price US$28
Indian Edition at Rs 1495 • Year 2026

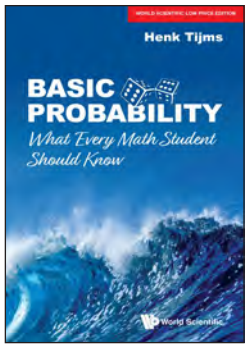
The problems in the International Mathematical Olympiad (IMO) are not only novel and interesting but also deeply rooted in profound mathematical context. The team at the International Mathematical Olympiad Research Center at East China Normal University has compiled and studied problems from past IMOs, dividing them into four volumes based on the mathematical fields involved: algebra, geometry, number theory, and combinatorics.

In the number theory volume, the IMO number theory problems are organized into three chapters: "Divisibility of Integers," "Modular Arithmetic," and "Indeterminate Equations." Each chapter begins with an introduction to the relevant foundational knowledge and methods, followed by a reclassification and reorganization of past IMO problems. Multiple elegant solutions are provided for some of the problems, along with a statistical analysis of their difficulty.

The book concludes with a record of past IMO participation and award information, as well as an index of number theory problems, facilitating further study and convenient reference. This series is suitable for researchers in mathematical competitions, mathematics educators, and contestants.

Contents
- Introduction to the IMO
- Divisibility of Integers
- Modular Arithmetic
- Indeterminate Equations
- IMO General Information
- IMO Number Theory Problem Index

Readership: Students engaged in mathematical competition, coaches in mathematics teaching, and teachers setting up math elective courses.



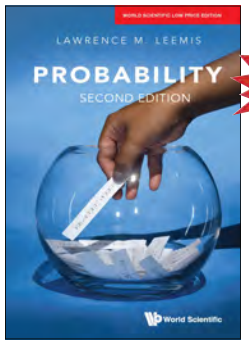
Basic Probability
What Every Math Student Should Know
By Henk Tijms
ISBN 9780000988447 • PB • 132pp
Original Price US$28
Indian Edition at Rs 1095 • Year 2020

Written by international award-winning probability expert Henk Tijms, *Basic Probability: What Every Math Student Should Know* presents the essentials of elementary probability. The book is primarily written for high school and college students learning about probability for the first time. In a highly accessible way, a modern treatment of the subject is given with emphasis on conditional probability and Bayesian probability, on striking applications of the Poisson distribution, and on the interface between probability and computer simulation.

In modern society, it is important to be able to critically evaluate statements of a probabilistic nature presented in the media in order to make informed judgments. A basic knowledge of probability theory is indispensable to logical thinking and statistical literacy. The book provides this knowledge and illustrates it with numerous everyday situations.

Contents
- Combinatorics and Calculus for Probability
- Basics of Elementary Probability
- Useful Probability Distributions with Applications
- Surprising World of Poisson Probabilities
- Computer Simulation and Probability
- Solutions to Selected Problems

Readership: High school, college and undergraduate students exposed to probability for the first time.



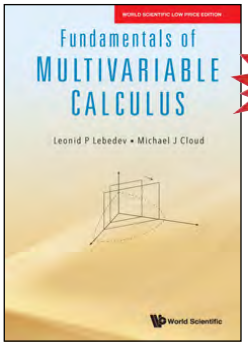
Probability, 2nd Edition
By Lawrence M Leemis
ISBN 9798886131727 • PB • 568pp
Original Price US$78
Indian Edition at Rs 2250 • Year 2026

This calculus-based introduction to probability covers all of the traditional topics, along with a secondary emphasis on Monte Carlo simulation. Examples that introduce applications from a wide range of fields help the reader apply probability theory to real-world problems. The text covers all of the topics associated with Exam P given by the Society of Actuaries.

Over 100 figures highlight the intuitive and geometric aspects of probability. Over 800 exercises are used to reinforce concepts and make this text appropriate for classroom use.

Contents
- Preface
- Introduction
- Probability
- Random Variables
- Common Discrete Distributions
- Common Continuous Distributions
- Joint Distributions
- Functions of Random Variables
- Limiting Distributions
- Index

Readership: For introductory undergraduate calculus-based course in probability.



NEW

Fundamentals of Multivariable Calculus
By Leonid P Lebedev & Michael J Cloud
ISBN 9798886131833 • PB • 316pp
Original Price US$98
Indian Edition at Rs 1395 • Year 2026

This textbook is carefully designed as an early undergraduate introduction to the calculus of several real variables. The balanced coverage is devoted to limits, continuity, partial derivatives, extrema, the nabla operator, multiple integrals, line integrals, surface integrals, and the fundamental theorems of vector calculus.

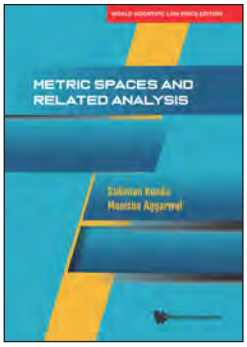
Engaging and accessible with detailed diagrams and copious worked examples, the presentation is well suited to students pursuing applied fields such as engineering. Multiple integration is motivated intuitively through the calculation of mass. The chapter-end problems provide both drill and challenge.

Overall, the book should equip students with the knowledge and confidence needed for subsequent courses.

An appendix on hints renders the book suitable for self-study. Prerequisites are limited to single-variable calculus, linear algebra, and analytic geometry.

Contents
- Preface
- About the Authors
- Preliminaries
- Differential Calculus
- Double Integrals
- Triple Integrals
- Line Integrals
- Surface Integrals
- The Principal Theorems
- Appendix A: Fields in Curvilinear Coordinates
- Appendix B: Hints and Answers
- Index

Readership: Undergraduate students in mathematics, science, and engineering, as well as practicing engineers.



Metric Spaces and Related Analysis
By Subiman Kundu & Manisha Aggarwal
ISBN 9798886131420 • PB • 272pp
Original Price US$88
Indian Edition at Rs 1495 • Year 2025

This book offers the comprehensive study of one of the foundational topics in Mathematics, known as Metric Spaces. The book delivers the concepts in an appropriate and concise manner, at the same time rich in illustrations and exercise problems. Special focus has been laid on important theorems like Baire's Category theorem, Heine–Borel theorem, Ascoli–Arzela Theorem, etc, which play a crucial role in the study of metric spaces.

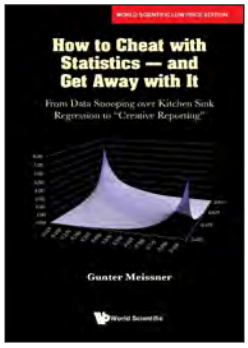
The additional chapter on Cofinal completeness, UC spaces and finite chainability makes the text unique of its kind. This helps the students in:

1. taking the secondary step towards analysis on metric spaces,
2. realizing the connection between the two most important classes of functions, continuous functions and uniformly continuous functions,
3. understanding the gap between compact metric spaces and complete metric spaces.

Consequently, the book becomes a complete package: it makes the foundational pillars strong and develops the interest of students to pursue research in metric spaces. The book is useful for third and fourth year undergraduate students and it is also helpful for graduate students and researchers.

Contents
- Fundamentals of Analysis
- Continuity and Some Stronger Notions
- Complete Metric Spaces
- Compactness
- Weaker Notions of Compactness
- Real-Valued Functions on Metric Spaces
- Connectedness

Readership: Undergraduate and graduate students, researchers in the areas of real analysis, analysis on metric spaces, real functions, topology, functional analysis.



How to Cheat with Statistics — and Get Away with It
From Data Snooping over Kitchen Sink Regression to "Creative Reporting"
By Gunter Meissner
ISBN 9781944660697 • PB • 136pp
Original Price US$28
Indian Edition at Rs 1195 • Year 2023

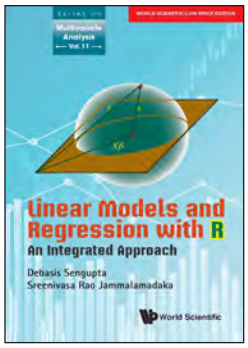
The book explains how to identify and catch statistical cheaters. The author came across many weaknesses and flaws in statistics through 30 years of teaching. These weaknesses allow a malevolent researcher to manipulate the inputs, the calculations, and the reporting of results to derive a desired outcome.

This book should be valuable to everyone who wants to gain a deeper understanding of the weaknesses in statistics and learn how to evaluate statistical research to catch a statistical cheater!

The math is explained in simple terms and should be easy to follow. In addition, the book comes with 18 Excel spreadsheets and 7 Python codes. There are also questions and problems at the end of each chapter, which should facilitate the usage in a classroom. Answers to the questions and problems are available to instructors upon request.

Contents
Input Manipulation:
Manipulating Input Data
Manipulating the Research Timeframe
Manipulating Statistical Calculations:
Regression Analysis
Inferential Statistics
"Creative Reporting", i.e., Distorting Outputs:
Numerical Bias
Visual Bias

Readership: Beginning undergraduate students interested in statistics, instructors of statistics, statisticians; any general audience interested in statistics.



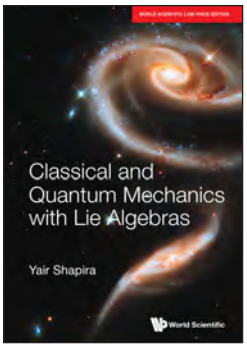
Linear Models and Regression with R
An Integrated Approach
By Debasis Sengupta &
Sreenivasa Rao Jammalamadaka
ISBN 9780000988843 • PB • 772pp
Original Price US$68
Indian Edition at Rs 1795 • Year 2020

Starting with the basic linear model where the design and covariance matrices are of full rank, this book demonstrates how the same statistical ideas can be used to explore the more general linear model with rank-deficient design and/or covariance matrices. The unified treatment presented here provides a clearer understanding of the general linear model from a statistical perspective, thus avoiding the complex matrix-algebraic arguments that are often used in the rank-deficient case. Elegant geometric arguments are used as needed. The book has a very broad coverage, from illustrative practical examples in Regression and Analysis of Variance alongside their implementation using R, to providing comprehensive theory of the general linear model with 181 worked-out examples, 227 exercises with solutions, 152 exercises without solutions (so that they may be used as assignments in a course), and 320 up-to-date references.

This completely updated and new edition of *Linear Models: An Integrated Approach* includes features such as:
• Applications with data sets, their implementation in R, Comprehensive coverage of regression diagnostics & model building
• Coverage of other special topics such as collinearity, stochastic and inequality constraints, misspecified models, etc.

Contents
Introduction • Regression and the Normal Distribution • Estimation in the Linear Model • Further Inference in the Linear Model • Model Building & Diagnostics in Regression • Analysis of Variance • General Linear Model • Misspecified or Unknown Dispersion • Updates in the General Linear Model • Multivariate Linear Model • Linear Inference — Other Perspectives

Readership: Researchers, lecturers, postgraduates, graduates and undergraduates in statistics and applied mathematics.



Classical and Quantum Mechanics with Lie Algebras
By Yair Shapira
ISBN 9798886130973 • PB • 712pp
Original Price US$78
Indian Edition at Rs 2095 • Year 2024

How to see physics in its full picture? This book offers a new approach: start from math, in its simple and elegant tools: discrete math, geometry, and algebra, avoiding heavy analysis that might obscure the true picture. This will get you ready to master a few fundamental topics in physics: from Newtonian mechanics, through relativity, towards quantum mechanics.

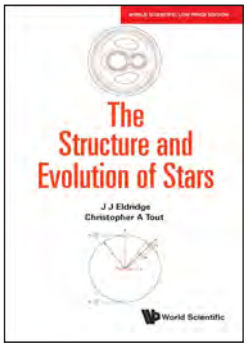
Thanks to simple math, both classical and modern physics follow and make a complete vivid picture of physics. This is an original and unified point of view to highlighting physics from a fresh pedagogical angle.

Each chapter ends with a lot of relevant exercises. The exercises are an integral part of the chapter: they teach new material and are followed by complete solutions. This is a new pedagogical style: the reader takes an active part in discovering the new material, step by step, exercise by exercise.

The book could be used as a textbook in undergraduate courses such as Introduction to Newtonian mechanics and special relativity, Introduction to Hamiltonian mechanics and stability, Introduction to quantum physics and chemistry, and Introduction to Lie algebras with applications in physics.

Contents
- Introduction to Newtonian Physics
- Towards Stability in Classical Mechanics
- The Binomial Formula and Quantum Statistical Mechanics
- Introduction to Relativity
- Introduction to Quantum Physics & Chemistry
- Introduction to Lie Algebras and Their Applications
- Appendix: Background in Calculus
- References
- Index

Readership: Undergraduate and graduate students in Mathematics, Physics & Chemistry.



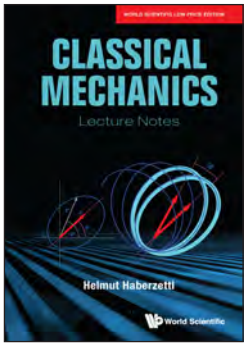
The Structure and Evolution of Stars
By J J Eldridge & Christopher A Tout
ISBN 9798886131383 • PB • 360pp
Original Price US$48
Indian Edition at Rs 1895 • Year 2025

Stars are the fundamental observable constituents of the Universe. They are the first objects we see in the night sky, they dominate the light produced in our own and other galaxies, and nucleosynthesis in stars produces all the elements heavier than helium. A knowledge of stars and their evolution is vital to understand other astrophysical objects from accreting black holes and galaxies to the Universe itself.

The structure of a star can be described mathematically by differential equations derived from the principles of hydrodynamics, electromagnetic theory, thermodynamics, quantum mechanics, atomic and nuclear physics. The basic equations of a spherical star are derived in detail at an accessible level. The topics discussed include modes of energy transport, the equation of state, the physics of the opacity sources and the nuclear reactions. Attention is also given to the virial theorem, polytropic gas spheres and homology principles and the procedure for numerical solution of the equations is outlined. This book tracks the evolution of stars from their main-sequence evolution through the exhaustion of various nuclear fuels to the end points of evolution and also introduces the topic of interacting binary stars. The aim is to take the reader from the essential underlying physical principles to the doors to current research on stellar interiors.

Contents
Observable Properties of Stars • The Equations of Stellar Structure • The Equation of State • Heat Transport • Stellar Atmospheres • Energy Generation • Stellar Models • Stellar Evolution • Binary Stars

Readership: Final year undergraduates, first-year PhD students and post-doctoral researchers in the field of astrophysics or astronomy.



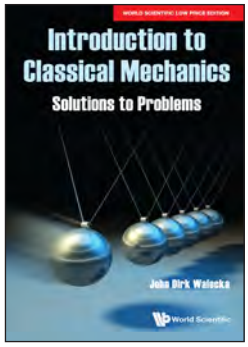
Classical Mechanics
Lecture Notes
By Helmut Haberzettl
ISBN 9798886130652 • PB • 384pp
Original Price US$48
Indian Edition at Rs 1695 • Year 2024

This textbook provides lecture materials of a comprehensive course in *Classical Mechanics* developed by the author over many years with input from students and colleagues alike. The richly illustrated book covers all major aspects of mechanics starting from the traditional Newtonian perspective, over Lagrangian mechanics, variational principles and Hamiltonian mechanics, rigid-body, and continuum mechanics, all the way to deterministic chaos and point-particle mechanics in special relativity. Derivation steps are worked out in detail, illustrated by examples, with ample explanations.

Developed by a classroom practitioner, the book provides a comprehensive overview of classical mechanics with judicious material selections that can be covered in a one-semester course thus streamlining the instructor's task of choosing materials for their course. The usefulness for instructors notwithstanding, the primary aim of the book is to help students in their understanding, with detailed derivations and explanations, and provide focused guidance for their studies by repeatedly emphasizing how various topics are tied together by common physics principles.

Contents
- Newtonian Mechanics
- Lagrangian Mechanics
- Variational Principles
- Hamiltonian Mechanics
- Mechanics of Rigid Bodies
- Small Oscillations
- Continuum Mechanics
- Beyond Classical Mechanics
- Appendices:
- Coordinates, Vector Operations, etc.
- Dirac δ Distribution
- Green's Function Method: An Example

Readership: Advanced undergraduates and graduates in Physics.



Introduction to Classical Mechanics
Solutions to Problems
By John Dirk Walecka
ISBN 9798886130799 • PB • 152pp
Original Price US$38
Indian Edition at Rs 1395 • Year 2024

The textbook *Introduction to Classical Mechanics* aims to provide a clear and concise set of lectures that take one from the introduction and application of Newton's laws up to Hamilton's principle of stationary action and the lagrangian mechanics of continuous systems. An extensive set of accessible problems enhances and extends the coverage.

It serves as a prequel to the author's recently published book entitled *Introduction to Electricity and Magnetism* based on an introductory course taught some time ago at Stanford with over 400 students enrolled. Both lectures assume a good, concurrent course in calculus and familiarity with basic concepts in physics; the development is otherwise self-contained.

As an aid for teaching and learning, this additional book provides the solutions to the problems in the text *Introduction to Classical Mechanics*.

Contents
- Introduction
- Vectors
- Inertial Coordinate Systems
- Newton's Laws
- Examples
- Energy
- Angular Momentum
- System of Particles
- Generalized Coordinates
- Hamilton's Principle
- Lagrangian Dynamics
- Hamiltonian Dynamics
- Continuum Mechanics
- Waves
- Continuum Mechanics of String
- Mechanics of Fluids
- Appendices

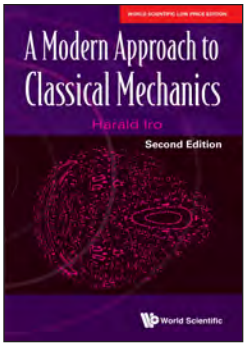
Readership: First year undergraduate students, and all physicists interested in the topic.

Lectures on Classical Mechanics
By Berthold-Georg Englert
ISBN 9780000991812 • PB • 376pp
Original Price US$48
Indian Edition at Rs 1495 • Year 2024

These lecture notes cover Classical Mechanics at the level of second-year undergraduates. The book offers comprehensive as well as self-contained material that can be taught in a one-semester course for students with the minimal background knowledge acquired in preuniversity education or in the usual first-year overview. The presentation does not skip the technical details which renders the book particularly well-suited for the self-studying student.

Contents
- Kinematics
- Dynamics
- Conservative Forces
- Pair Forces
- Two-Body Systems
- Gravitating Mass Distributions
- Variational Problems
- Principle of Stationary Action
- Small-Amplitude Oscillations
- From Lagrange to Hamiltonian
- Rigid Bodies
- Earth-Bound Laboratories

Readership: Second-year university undergraduates, course facilitators, and university lecturers.



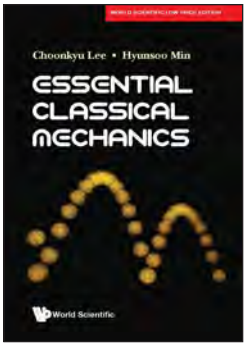
A Modern Approach to Classical Mechanics, 2nd Edition
By Harald Iro
ISBN 9798886130065 • PB • 528pp
Original Price US$58
Indian Edition at Rs 1695 • Year 2024

In this book we describe the evolution of Classical Mechanics from Newton's laws via Lagrange's and Hamilton's theories with strong emphasis on integrability versus chaotic behavior.

In the second edition of the book we have added historical remarks and references to historical sources important in the evolution of classical mechanics.

Contents
- Basic Considerations and Concepts
- Fundamentals of Classical Mechanics
- One-Dimensional Motion of a Particle
- Peculiar Motion in Two Dimensions
- Motion in a Central Force
- Gravitational Force Between Two Bodies
- Collisions of Particles. Scattering
- Changing the Frame of Reference
- Lagrangian Mechanics
- Conservation Laws and Symmetries
- The Rigid Body
- Small Oscillations
- Hamiltonian Mechanics
- Hamilton–Jacobi Theory
- Three-body Systems
- Approximating Non-Integrable Systems

Readership: Advanced undergraduates, academics, and lecturers who may have used the first edition and would recommend their teaching assistants and students to use an updated edition in their own graduate study.

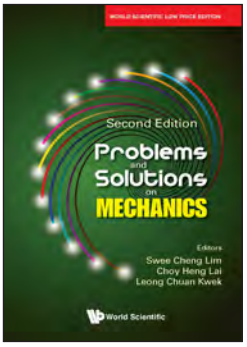


Essential Classical Mechanics
By Choonkyu Lee & Hyunsoo Min
ISBN 9780000988614 • PB • 764pp
Original Price US$78
Indian Edition at Rs 1695 • Year 2020

This is a book on intermediate classical mechanics. In this book, classical mechanics is presented as a useful tool to analyze the physical universe and also as the base on which the whole pyramid of modern physics has been erected. Various mechanical concepts are developed in a highly logical manner, with relatively thorough treatments on mathematical procedures and many physically interesting applications. Connections to more modern theoretical developments (including statistical physics, relativity, and quantum mechanics) are emphasized.

Contents
Preface
In Three-Dimensional Space: Vector Description
Evolution in Time: Basic Elements of Newtonian Mechanics
One-Dimensional Motion
Motion of a Particle in Two or Three Dimensions
The Two-Body Problem, Collision and Many-Particle System
Gravitational Field Equations
Rigid Body Dynamics I
Elements of Fluid Mechanics
Motion in a Non-Inertial Reference Frame
Lagrangian Mechanics
Application of the Lagrangian Method: Small Oscillations
Rigid Body Dynamics II
Hamiltonian Mechanics
Selected References

Readership: Undergraduate and graduate physics students.



Problems and Solutions on Mechanics, 2nd Edition
By Swee Cheng Lim, Choy Heng Lai & Leong Chuan Kwek
ISBN 9781944660123 • PB • 712pp
Original Price US$68
Indian Edition at Rs 1795 • Year 2022

This volume is a compilation of carefully selected questions at the PhD qualifying exam level, including many actual questions from Columbia University, University of Chicago, MIT, State University of New York at Buffalo, Princeton University, University of Wisconsin and the University of California at Berkeley over a twenty-year period. Topics covered in this book include dynamics of systems of point masses, rigid bodies and deformable bodies, Lagrange's and Hamilton's equations, and special relativity.

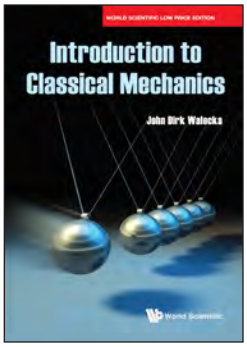
This latest edition has been updated with more problems and solutions and the original problems have also been modernized, excluding outdated questions and emphasizing those that rely on calculations. The problems range from fundamental to advanced in a wide range of topics on mechanics, easily enhancing the student's knowledge through workable exercises. Simple-to-solve problems play a useful role as a first check of the student's level of knowledge whereas difficult problems will challenge the student's capacity on finding the solutions.

Contents
Newtonian Mechanics:
Dynamics of a Point Mass (1001–1108)
Dynamics of a System of Point Masses (1109–1144)
Dynamics of Rigid Bodies (1145–1223)
Dynamics of Deformable Bodies (1224–1272)

Analytical Mechanics:
Lagrange's Equations (2001–2027)
Small Oscillations (2028–2067)
Hamilton's Canonical Equations (2068–2084)

Special Relativity:
Special Relativity (3001–3054)

Readership: Lecturers, postgraduates and advanced undergraduates in physics.

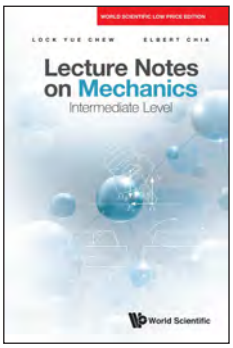


Introduction To Classical Mechanics
By John Dirk Walecka
ISBN 9780000990013 • PB • 152pp
Original Price US$38
Indian Edition at Rs 950 • Year 2021

This textbook aims to provide a clear and concise set of lectures that take one from the introduction and application of Newton's laws up to Hamilton's principle of stationary action and the lagrangian mechanics of continuous systems. An extensive set of accessible problems enhances and extends the coverage.
It serves as a prequel to the author's recently published book entitled Introduction to Electricity and Magnetism based on an introductory course taught sometime ago at Stanford with over 400 students enrolled. Both lectures assume a good, concurrent, course in calculus and familiarity with basic concepts in physics; the development is otherwise self-contained.
A good introduction to the subject allows one to approach the many more intermediate and advanced texts with better understanding and a deeper sense of appreciation that both students and teachers alike can share.

Contents
Introduction
Vectors
Inertial Coordinate Systems
Newton's Laws
Examples
Energy
Angular Momentum
System of Particles
Generalized Coordinates
Hamilton's Principle
Lagrangian Dynamics
Hamiltonian Dynamics
Continuum Mechanics
Waves
Continuum Mechanics of String
Mechanics of Fluids
Problems
Appendix A: Numerical Methods
Appendix B: Significant Names in Classical Mechanics

Readership: First-year (honors) undergraduates, other physicists and engineers interested in the topic.

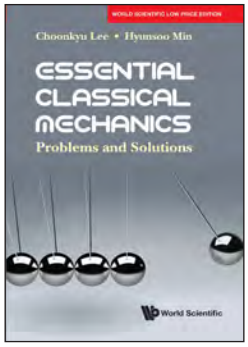


Lecture Notes on Mechanics
Intermediate Level
By Lock Yue Chew & Elbert Chia
ISBN 9780000990327 • PB • 172pp
Original Price US$28
Indian Edition at Rs 1195 • Year 2021

This book is for students who are familiar with an introductory course in mechanics at the freshman level. With an emphasis on perspectives that are more fundamental and techniques more advanced than those given in most introductory mechanics textbooks, the book illuminates on notions where vectors are coordinate free, presents the importance of reference frames (inertial and non-inertial) to mechanics problems, the role of Galilean Relativity on invariance and covariance of physical quantities, a framework to perform calculations — free from the constraint of a fixed axis — in rotational dynamics, and others. Moreover, it provides clear links between concepts in mechanics and other branches of physics, such as thermodynamics and electrodynamics, so that students can possess a more complete view of what they learn within the confines of physics.

Contents
Vectors as Coordinate-Free System
Vector Representation of Kinematics
Galilean Theory of Relativity
Newton's Laws
Energy and Work
Linear Momentum and Newton's Law with Variable Masses
The Fundamental Mechanics of Rotational Motion

Readership: Junior undergraduate students in Physics and Engineering. Lecturers of Physics and Engineering courses, looking for ideal materials to ease students' learning.



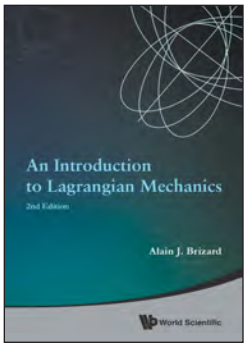
Essential Classical Mechanics
Problems and Solutions
By Choonkyu Lee & Hyunsoo Min
ISBN 9780000988621 • PB • 508pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2020

Problem solving in physics is not simply a test of understanding, but an integral part of learning. This book contains complete step-by-step solutions for all exercise problems in Essential Classical Mechanics, with succinct chapter-by-chapter summaries of key concepts and formulas. The degree of difficulty with problems varies from quite simple to very challenging: but none too easy, as all problems in physics demand some subtlety of intuition. The emphasis of the book is not so much in acquainting students with various problem-solving techniques as in suggesting ways of thinking. For undergraduate and graduate students, as well as those involved in teaching classical mechanics, this book can be used as a supplementary text or as an independent study aid.

Contents
Summary and Problems: In Three-Dimensional Space: Vector Description • Evolution in Time: Basic Elements of Newtonian Mechanics • One-Dimensional Motion • Motion of a Particle in Two or Three Dimensions • The Two-Body Problem, Collision and Many-Particle System • Gravitational Field Equations • Rigid Body Dynamics I • Elements of Fluid Mechanics • Lagrangian Mechanics • Rigid Body Dynamics II

Solutions: Evolution in Time: Basic Elements of Newtonian Mechanics • One-Dimensional Motion • The Two-Body Problem, Collision and Many-Particle System • Gravitational Field Equations • Rigid Body Dynamics I • Elements of Fluid Mechanics • Motion in a Non-Inertial Reference Frame • Lagrangian Mechanics • Application of the Lagrangian Method: Small Oscillations • Rigid Body Dynamics II • Hamiltonian Mechanics

Readership: Undergraduate and graduate physics students.



An Introduction to Lagrangian Mechanics, 2nd Edition
By Alain J Brizard
ISBN 9789814623629 • PB • 324pp
Original Price US$58
Indian Edition at Rs 995 • Year 2015

An Introduction to Lagrangian Mechanics begins with a proper historical perspective on the Lagrangian method by presenting Fermat's Principle of Least Time (as an introduction to the Calculus of Variations) as well as the principles of Maupertuis, Jacobi, and d'Alembert that preceded Hamilton's formulation of the Principle of Least Action, from which the Euler–Lagrange equations of motion are derived. Other additional topics not traditionally presented in undergraduate textbooks include the treatment of constraint forces in Lagrangian Mechanics; Routh's procedure for Lagrangian systems with symmetries; the art of numerical analysis for physical systems; variational formulations for several continuous Lagrangian systems; an introduction to elliptic functions with applications in Classical Mechanics; and Noncanonical Hamiltonian Mechanics and perturbation theory.

The *Second Edition* includes a larger selection of examples & problems (with hints) in each chapter and continues the strong emphasis of the First Edition on the development and application of mathematical methods (mostly calculus) to the solution of problems in Classical Mechanics.

Contents

Readership: Advanced undergraduate and graduate students in physics.

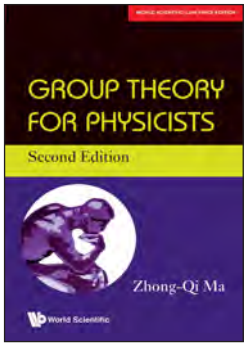
Finite Temperature Field Theory, 2nd Edition
By Ashok Das
ISBN 9798886131192 • PB • 652pp
Original Price US$88
Indian Edition at Rs 2095 • Year 2025

This book discusses all three formalisms used in the study of finite temperature field theory, namely the imaginary time formalism, the closed time formalism and thermofield dynamics. In addition, the finite temperature description on an arbitrary path in the complex t-plane is also described in detail. Gauge field theories and symmetry restoration at finite temperature are among the practical examples discussed in depth. The thermal operator representation relating the zero temperature Feynman graphs to the finite temperature ones are also explained in depth. Applications of the formalisms are worked out in detail. The consistent generalization of light-front field theories to finite temperature is systematically explained as well as the phenomenon of Unruh radiation.

This book is a very useful tool for graduate students, teachers and researchers in theoretical physics.

Contents

Readership: Graduate students, teachers and researchers in theoretical physics.

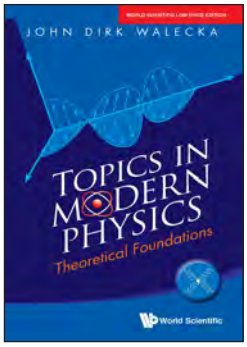


Group Theory for Physicists, 2nd Edition
By Zhong-Qi Ma
ISBN 9780000988720 • PB • 656pp
Original Price US$68
Indian Edition at Rs 1695 • Year 2023

This textbook explains the fundamental concepts and techniques of group theory by making use of language familiar to physicists. Calculation methods in the context of physics are emphasized. New materials drawn from the teaching and research experience of the author are included. The generalized Gel'fand's method is presented to calculate the matrices of irreducible representations of the simple Lie algebra and its Clebsch–Gordan coefficients. This book is for graduate students and young researchers in physics, especially theoretical physics. It is also for graduate students in theoretical chemistry.

Contents

Readership: Graduate students and researchers who are willing to explore the mathematical beauty of symmetry.

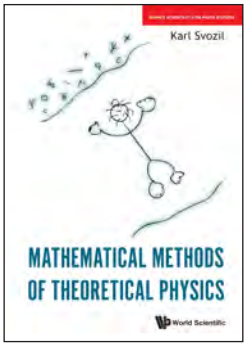


Topics In Modern Physics
Theoretical Foundations
By Walecka John Dirk
ISBN 9780000990020 • PB • 500pp
Original Price US$48
Indian Edition at Rs 1450 • Year 2021

While the two previous books entitled *Introduction to Modern Physics: Theoretical Foundations* and *Advanced Modern Physics: Theoretical Foundations* exposed the reader to the foundations and frontiers of today's physics, the goal of this third volume is to cover in some detail several topics omitted in the essentially linear progression of the first two.
This book is divided into three parts. Part 1 is on quantum mechanics. Analytic solutions to the Schrödinger equation are developed for some basic systems. The analysis is then formalized, concluding with a set of postulates for the theory. Part 2 is on applications of quantum mechanics: approximation methods for bound states, scattering theory, time-dependent perturbation theory, and electromagnetic radiation and quantum electrodynamics. Part 3 covers some selected topics in relativistic quantum field theory: discrete symmetries, the Heisenberg picture, and the Feynman rules for quantum chromodynamics.
The three volumes in this series taken together provide a clear, logical, self-contained, and comprehensive base from which the very best students can learn modern physics. When finished, readers should have an elementary working knowledge in the principal areas of theoretical physics of the twentieth century.

Contents
Quantum Mechanics: Solutions to the Schrödinger Equation • Formal Developments • Applications of Quantum Mechanics: Approximation Methods for Bound States • Scattering Theory • Time-Dependent Perturbation Theory • Electromagnetic Radiation and Quantum Electrodynamics • Relativistic Quantum Field Theory: Discrete Symmetries • Heisenberg Picture • Feynman Rules for QCD • Problems and Appendices

Readership: Advanced undergraduates, graduate students and researchers in theoretical physics and quantum mechanics.

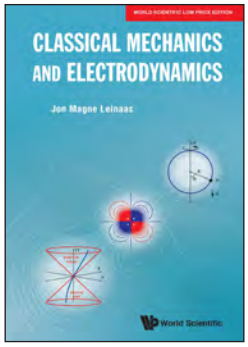


Mathematical Methods of Theoretical Physics
By Karl Svozil
ISBN 9780000990303 • PB • 332pp
Original Price US$78
Indian Edition at Rs 1995 • Year 2021

This book contains very explicit proofs and demonstrations through examples for a comprehensive introduction to the mathematical methods of theoretical physics. It also combines and unifies many expositions of this subject, suitable for readers with interest in experimental and applied physics.

Contents:
Why Mathematics?
• Linear Vector Spaces
Finite-Dimensional Vector Spaces and Linear Algebra; Multilinear Algebra and Tensors; Groups as Permutations; Projective and Incidence Geometry
• Functional Analysis
Brief Review of Complex Analysis; Brief Review of Fourier Transforms; Distributions as Generalized Functions
• Differential Equations
Green's Function; Sturm–Liouville Theory; Separation of Variables; Special Functions of Mathematical Physics Divergent Series

Readership: Undergraduate students in Mathematical Physics and Computer Science.



Classical Mechanics and Electrodynamics
By Jon Magne Leinaas
ISBN 9780000988515 • PB • 364pp
Original Price US$58
Indian Edition at Rs 1295 • Year 2020

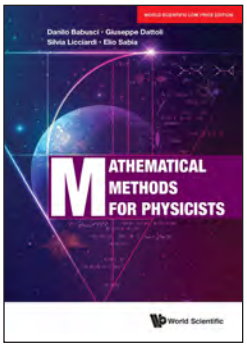
The book gives a general introduction to classical theoretical physics, in the fields of mechanics, relativity and electromagnetism. It is analytical in approach and detailed in the derivations of physical consequences from the fundamental principles in each of the fields. The book is aimed at physics students in the last year of their undergraduate or first year of their graduate studies. The text is illustrated with many figures, most of these in color. There are many useful examples and exercises which complement the derivations in the text.

Contents:
Analytical Mechanics: Generalized Coordinates • Lagrange's Equations • Hamiltonian Dynamics

Relativity: The Four-Dimensional Space-Time • Consequences of the Lorentz Transformations • Four-Vector Formalism and Covariant Equations • Relativistic Kinematics • Relativistic Dynamics

Electrodynamics: Maxwell's Equations • Electromagnetic Field Dynamics • Maxwell's Equations with Stationary Sources • Electromagnetic Radiation

Readership: Undergraduate and graduate students.



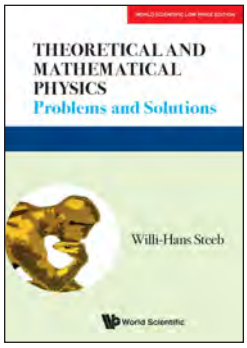
Mathematical Methods for Physicists
By Danilo Babusci, Giuseppe Dattoli, Silvia Licciardi & Elio Sabia
ISBN 9780000988904 • PB • 480pp
Original Price US$58
Indian Edition at Rs 1895 • Year 2020

The book covers different aspects of mathematical methods for Physics. It is designed for graduate courses but a part of it can also be used by undergraduate students. The leitmotiv of the book is the search for a common mathematical framework for a wide class of apparently disparate physical phenomena. An important role, within this respect, is provided by a nonconventional formulation of special functions & polynomials. The proposed methods simplify the understanding of the relevant technicalities & yield a unifying view to their applications in Physics as well as other branches of science.

The chapters are not organized through the mathematical study of specific problems in Physics, rather they are suggested by the formalism itself. For example, it is shown how the matrix formalism is useful to treat ray Optics, atomic systems evolution, QED, QCD and Feynman diagrams. The methods presented here are simple but rigorous. They allow a fairly substantive tool of analysis for a variety of topics and are useful for beginners as well as the more experienced researchers.

Contents
Matrices, Exponential Operators and Physical Applications
Ordinary and Partial Differential Equations, Evolution Operator Method and Applications
Hermite Polynomials and Applications
Laguerre Polynomials, Integral Operators and Applications
Exercises and Complements I & II
Exercises and Complements III & IV
Special Functions, Umbral Methods and Applications
A Glimpse into the Math of the Feynman Diagrams

Readership: Advanced undergraduate and graduate students in physics & related fields.

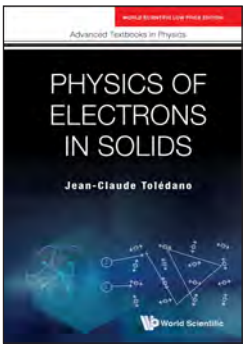


Theoretical and Mathematical Physics
Problems and Solutions
By Willi-Hans Steeb
ISBN 9780000989116 • PB • 736pp
Original Price US$88
Indian Edition at Rs 1795 • Year 2020

This book is a comprehensive compilation covering most areas in mathematical and theoretical physics. It provides a collection of problems together with their detailed solutions valuable to students & to researchers in the fields of mathematics, physics, engineering and other sciences. Each chapter provides a short introduction with the relevant definitions and notations. The topics range in difficulty from elementary to advanced. Almost all problems are solved in detail and most of the problems are self-contained. Students can learn important principles and strategies required for problem solving. Important concepts and techniques are developed in the problems. More advanced problems together with their detailed solutions are collected, to meet the needs of graduate students and researchers. Problems included cover new fields in theoretical and mathematical physics such as tensor product, Lax representation, Bäcklund transformation, soliton equations, Hilbert space theory, uncertainty relation, entanglement, spin systems, Lie groups, Bose system, Fermi systems differential forms, Lie algebra valued differential forms, metric tensor fields, Hirota technique, Painlevé test, Bethe ansatz, Yang–Baxter relation, wavelets, gauge theory, differential geometry, string theory, chaos, fractals, complexity, ergodic theory, etc. A number of software implementations are also provided.

Contents
Sums, Products and Discrete Fourier Transform • Transformations, Functions and Maps • Algebraic and Transcendental Equations • Vector and Matrix Calculus • Matrices and Eigenvalue Problems • Complex Analysis • Integration • Inequalities • Optimization
For complete table of contents, email us at marketing@feelbooks.in

Readership: Undergraduate and graduate students in solid state sciences, coordination chemists and physicists.



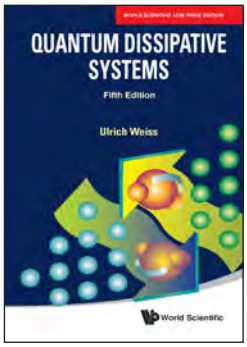
Physics of Electrons in Solids
By Jean-Claude Tolédano
ISBN 9798886131321 • PB • 388pp
Original Price US$128
Indian Edition at Rs 1695 • Year 2025

Primarily aiming to give undergraduate students an introduction to solid state physics, *Physics of Electrons in Solids* explains the properties of solids through the study of non-interacting electrons in solids. While each chapter contains a qualitative introduction to the main ideas behind solid state physics, it also provides detailed calculations of utmost importance to graduate students.

The introductory chapters contain crystallographic and quantum prerequisites. The central chapters are devoted to the quantum states of an independent electron in a crystal and to the equilibrium properties of conductors, insulators, and semiconductors. The final chapters contain insights into the assumptions made throughout, briefly describing the origin of ferromagnetism and superconductivity. The book ends with exercises and solutions based on a physics course taught by the author at École Polytechnique.

Contents
- Solids as Quantum Systems
- The Crystalline Order
- The Reciprocal Space as a Space of Quantum Numbers
- The Reciprocal Space as a Space of Diffraction Patterns
- Quantum States of an Electron in a Crystal
- Equilibrium Electronic Properties of Solids
- The Dynamics of Electrons in a Crystal
- Electronic Transport Properties of Solids
- Intrinsic and Doped Semiconductors
- Solids as Systems of Particles in Interaction
- Ferromagnetism and Superconductivity
- Appendices

Readership: Will be of value to any physics department, particularly those with courses on: Introduction to Solid State Physics; Introduction to Semiconductor Physics; Introduction to Crystallography. Will be of value in a secondary market of Research Centres in Material Science, Semiconductors and Electronic Devices.



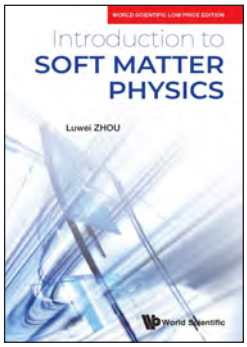
Quantum Dissipative Systems, 5th Edition
By Ulrich Weiss
ISBN 9798886130966 • PB • 608pp
Original Price US$98
Indian Edition at Rs 1695 • Year 2024

This comprehensive textbook provides the fundamental concepts and methods of dissipative quantum mechanics and related issues in condensed matter physics starting from first principles. It deals with the phenomena and theory of decoherence, relaxation and dissipation in quantum mechanics that arise from the random exchange of energy with the environment. Major theoretical advances in combination with stunning experimental achievements and the arising perspective for quantum computing have brightened the field and brought it to the attention of the general community in natural sciences.

This book — originally published in 1992 and republished as enlarged and updated second, third and fourth edition in 1999, 2008, and 2012 — dives even deeper into the fundamental concepts, methods and applications of quantum dissipation. The fifth edition provides a self-contained and updated account of the quantum mechanics and quantum statistics of open systems. The subject matter of the book has been thoroughly revised to better comply with the needs of newcomers and the demands of the advanced readership. Four new chapters covering recent developments in the field have been added. There are about 600 references.

Contents
Introduction
General Theory of Open Quantum Systems
Miscellaneous Applications
Quantum Statistical Decay
The Dissipative Two-State System
The Dissipative Multi-State System

Readership: Advanced undergraduate and graduate students; researchers in quantum statistical and condensed matter physics, in quantum/classical mechanics, in quantum information and quantum state engineering, in quantum optics, and in Bose-condensed systems.



Introduction to Soft Matter Physics
By Luwei Zhou
ISBN 9798886130188 • PB • 352pp
Original Price US$48
Indian Edition at Rs 1495 • Year 2024

Soft matters differ from hard ones essentially due to former's relatively weak interaction which is comparable to $K_B T_{rm}$ (T_{rm} = room temperature) — this results in the major characteristics of soft matters such as "strong reactions upon weak actions".

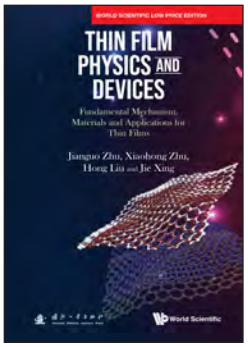
Developed over a period of 10 years through soft matter physics lectures for both graduate and undergraduate students in Fudan University, this textbook not only concentrates on the basic interactions inside soft matters through a reductionist approach, but also introduces the exploratory works on the complexity of soft matters in methods of system science.

Other important topics in soft matter physics which are included involve static and dynamic electrorheological (ER) effects — an important 'model animal' in the subject, granular media — which explains the thermodynamics of sands and its dynamics, and the Onsager principle of least energy dissipation rate which has been adapted in this textbook to see how it governs the optimal paths of a system's deviation from and restoration to equilibrium.

The subject of soft matter physics is still in its infancy, making it highly exciting and attractive. If you like a challenging subject, you will most certainly fall in love with soft matter physics at first read!

Contents
- Characteristics of Soft Matters
- Basic Interactions in Soft Matters
- Structures Determination of Soft Matters
- Complexity of Soft Matters
- Static Electrorheological Effect
- Dynamic of Electrorheological Effects
- Granular Systems

Readership: Students at the undergraduate to graduate level who are interested in the study of soft matter physics.

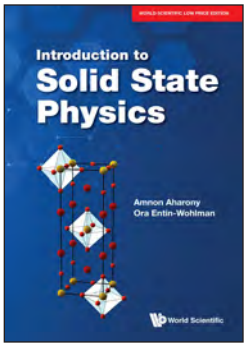


Thin Film Physics and Devices
Fundamental Mechanism, Materials and Applications for Thin Films
By Jianguo Zhu, Xiaohong Zhu, Hong Liu, & Jie Xing
ISBN 9781944660376 • PB • 708pp
Original Price US$198
Indian Edition at Rs 2095 • Year 2023

Thin films have an extremely broad range of applications from electronics and optics to new materials and devices. Collaborative and multidisciplinary efforts from physicists, materials scientists, engineers and others have established and advanced a field with key pillars constituting (i) the synthesis and processing of thin films, (ii) the understanding of physical properties in relation to the nanometer scale, (iii) the design & fabrication of nano-devices or devices with thin film materials as building blocks, and (iv) the design and construction of novel tools for characterization of thin films.

Against the backdrop of the increasingly interdisciplinary field, this book sets off to inform the basics of thin film physics and thin film devices. Readers are systematically introduced to the synthesis, processing and application of thin films; they will also study the formation of thin films, their structure and defects, and their various properties — mechanical, electrical, semiconducting, magnetic, and superconducting. With a primary focus on inorganic thin film materials, the book also ventures on organic materials such as self-assembled monolayers and Langmuir–Blodgett films.

This book will be effective as a teaching or reference material in the various disciplines, ranging from Materials Science and Engineering, Electronic Science and Engineering, Electronic Materials and Components, Semiconductor Physics and Devices, to Applied Physics and more. The original Chinese publication has been instrumental in this purpose across many Chinese universities and colleges.

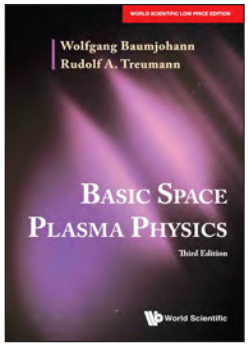


Introduction to Solid State Physics
By Amnon Aharony & Ora Entin-Wohlman
ISBN 9780000988775 • PB • 640pp
Original Price US$78
Indian Edition at Rs 2195 • Year 2020

This is an introductory book on solid state physics. It is a translation of a Hebrew version, written for the Open University in Israel. Aimed mainly for self-study, the book contains appendices with the necessary background, explains each calculation in detail and contains many solved problems. The bulk of the book discusses the basic concepts of periodic crystals, including lattice structures, radiation scattering off crystals, crystal bonding, vibrations of crystals, and electronic properties. On the other hand, the book also presents brief reviews of advanced topics, e.g. quasicrystals, soft condensed matter, mesoscopic physics and the quantum Hall effect. There are also many specific examples drawn from modern research topics, e.g. perovskite oxides relevant for high temperature superconductivity, graphene, electrons in low dimensions and more.

Contents
Introduction
The Crystalline Structure of Solids
Radiation Scattering Off Crystals
Crystal Bonding
Lattice Vibrations
Electrons in Solids
Selected Topics
Appendices:
The Platonic Bodies
Fourier Series
Topics in Quantum Mechanics
The Continuum Limit
The Schrödinger Equation for Electrons in a Magnetic Field

Readership: Undergraduate and graduate students and researchers in physics, chemistry, materials and electrical engineering.



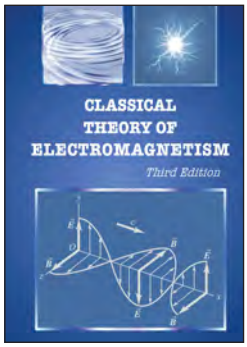
Basic Space Plasma Physics, 3rd Edition
By Wolfgang Baumjohann &
Rudolf A Treumann
ISBN 9781944660727 • PB • 528pp
Original Price US$78
Indian Edition at Rs 1595 • Year 2023

This textbook describes Earth's plasma environment from single particle motion in electromagnetic fields, with applications to Earth's magnetosphere, up to plasma wave generation and wave-particle interaction. The origin and effects of collisions and conductivities are discussed in detail, as is the formation of the ionosphere, the origin of magnetospheric convection and magnetospheric dynamics in solar wind-magnetosphere coupling, the evolution of magnetospheric storms, auroral substorms, and auroral phenomena of various kinds.

The book ends with a section on space climatology, space meteorology and space weather, a new application field in space plasma physics that is of vital interest when considering the possible hazards to civilization from space.

Contents
Preface to the Third Edition
Preface to the Revised Edition
Preface to the First Edition
Introduction
Single Particle Motion
Trapped Particles
Collisions and Conductivity
Convection and Substorms
Elements of Kinetic Theory
Plasma Magnetohydrodynamics
Flows and Discontinuities
Waves in Plasma Fluids
Wave Kinetic Theory
Plasma Instability
Collisionless Reconnection
Collisionless Shocks
Final Remarks
Appendices:
Additions to the Third Edition
Basic Relations
Extensions
Index

Readership: Students, researchers and instructors focusing on space plasma, astronomy and astrophysics.



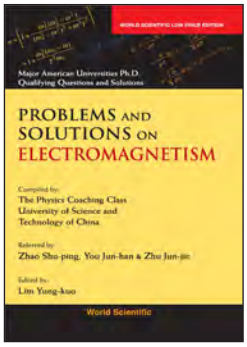
Classical Theory of Electromagnetism, 3rd Edition
By Baldassare Di Bartolo
ISBN 9781944660994 • PB • 720pp
Original Price US$98
Indian Edition at Rs 1995 • Year 2024

The topics treated in this book are essentially those that a graduate student of physics or electrical engineering should be familiar with in classical electromagnetism. Each topic is analyzed in detail, and each new concept is explained with examples.

The text is self-contained and oriented toward the student. It is concise and yet very detailed in mathematical calculations; the equations are explicitly derived, which is of great help to students and allows them to concentrate more on the physics concepts, rather than spending too much time on mathematical derivations. The introduction of the theory of special relativity is always a challenge in teaching electromagnetism, and this topic is considered with particular care. A large number of exercises are included.

Contents
- Mathematical Introduction
- Charges and Electrostatics
- Stationary Currents and Magnetostatics
- Induction and Quasi-Stationary Phenomena
- General Discussion of Maxwell Equations
- Theory of Relativity I
- Theory of Relativity II
- Radiation from a Moving Point Charge
- Radiation Damping and Electromagnetic Mass
- Radiation from Periodic Charge and Current Distributions
- Lagrangian and Hamiltonian Formulations of Electrodynamics
- Electromagnetic Properties of Matter

Readership: Advanced undergraduates and first year graduate students in physics



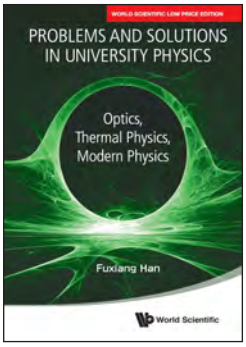
Problems and Solutions on Electromagnetism
Edited By Yung-Kuo Lim
ISBN 9780000989017 • PB • 676pp
Original Price US$58
Indian Edition at Rs 1695 • Year 2020

The material for these volumes has been selected from the past twenty years' examination questions for graduate students at University of California at Berkeley, Columbia University, the University of Chicago, MIT, State University of New York at Buffalo, Princeton University and University of Wisconsin.

This volume comprises 440 problems and is divided into five parts:
(I) Electrostatics
(II) Magnetostatic Field & Quasi-Stationary Electromagnetic Field
(III) Circuit Analysis
(IV) Electromagnetic Waves
(V) Relativistic Particle-Field Interactions.

Contents
Introduction
The Crystalline Structure of Solids
Radiation Scattering Off Crystals
Crystal Bonding
Lattice Vibrations
Electrons in Solids
Selected Topics
Appendices:
The Platonic Bodies
Fourier Series
Topics in Quantum Mechanics
The Continuum Limit
The Schrödinger Equation for Electrons in a Magnetic Field

Readership: Graduate, undergraduate students and physics instructors.



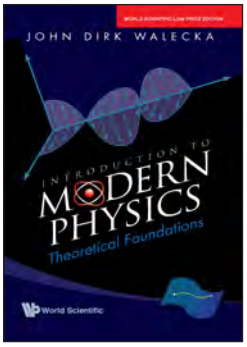
Problems and Solutions in University Physics
Optics, Thermal Physics, Modern Physics
By Fuxiang Han
ISBN 9780000991713 • PB • 448pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2024

This book is the solution manual to the textbook "A Modern Course in University Physics". It contains solutions to all the problems in the aforementioned textbook.

This solution manual is a good companion to the textbook. In this solution manual, we work out every problem carefully and in detail. With this solution manual used in conjunction with the textbook, the reader can understand and grasp the physics ideas more quickly and deeply. Some of the problems are not purely exercises; they contain extension of the materials covered in the textbook. Some of the problems contain problem-solving techniques that are not covered in the textbook.

Contents
- Preface
- Geometric Optics
- Interference
- Diffraction
- Polarization
- Basic Concepts in Thermodynamics
- First Law of Thermodynamics
- Second Law of Thermodynamics
- Kinetic Theory of Gases
- Relativity
- Early Quantum Phenomena
- Wave-Particle Duality
- Quantum Mechanics
- Atomic Structure
- Applications of Quantum Mechanics
- Index

Readership: Undergraduate students in science/ engineering field and physics lecturers.

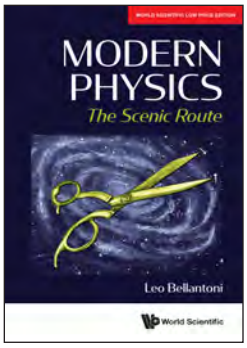


Introduction To Modern Physics
Theoretical Foundations
By Walecka John Dirk
ISBN 9780000990044 • PB • 496pp
Original Price US$73
Indian Edition at Rs 1395 • Year 2021

Our understanding of the physical world was revolutionized in the twentieth century — the era of "modern physics". This book, aimed at the very best students, presents the foundations and frontiers of today's physics. It focuses on the following topics: quantum mechanics; applications in atomic, nuclear, particle, and condensed-matter physics; special relativity; relativistic quantum mechanics, including the Dirac equation and Feynman diagrams; quantum fields; and general relativity. The aim is to cover these topics in sufficient depth such that things "make sense" to students and they can achieve an elementary working knowledge of them. Many problems are included, a great number of which take dedicated readers just as far as they want to go in modern physics. Although the book is designed so that one can, in principle, read and follow the text without doing any of the problems, the reader is urged to attempt as many of them as possible. Several appendices help bring the reader up to speed on any additional required mathematics. With very few exceptions, the reader should then find the text, together with the appendices and problems, to be self-contained.

Contents
- Classical Physics
- Some Contradictions
- Quantum Mechanics
- Atomic Physics
- Nuclear Physics
- Particle Physics
- Special Relativity
- Relativistic Quantum Mechanics
- General Relativity
- Quantum Fluids
- Quantum Fields
- Problems

Readership: Upper-level undergraduate physics or science students, research scientists and engineers.



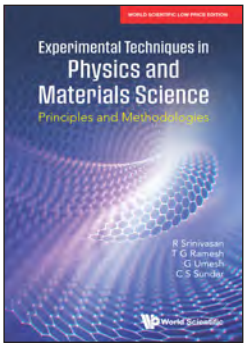
Modern Physics
The Scenic Route
By Leo Bellantoni
ISBN 9781944660505 • PB • 204pp
Original Price US$28
Indian Edition at Rs 1295 • Year 2023

This book leapfrogs over the usual pedagogical progression, taking readers to a real understanding of quantum, relativistic, nuclear and particle physics. These areas are usually reserved for the end of one's undergraduate career or even for graduate students in physics programs, but do not need to be. The Scenic Route is really created out of the joy of science; it is not designed to produce problem-solving ability but rather is designed to reveal some physics that is just plain nifty. Guided by an understanding that much of modern physics is available to almost everyone with a moderate mathematical vocabulary, we lead the student through a short, trenchant tour of quantum physics, relativity, modern particle physics and its history.

Contents
- Symmetry
- Mathematical Symmetries and Newton
- A Symmetry That Is Not
- Groups
- Generators
- Noether's Theorem
- The Quantum Mechanical Robert Frost
- The Central Procedure of Quantum Mechanics
- Your First Quantum Calculation
- Your First Quantum Experiment
- What Heisenberg Didn't Know
- Gauge Invariance
- Where Do the Quanta Come From?
- The Quest for Meaning: Particles and Waves
- The Logos
- Mental Waves
- Einstein, Podolsky and Rosen

For complete table of contents, email us at marketing@feelbooks.in

Readership: Undergraduate students in physics, nuclear engineering, mathematics, or electrical engineering.



Experimental Techniques in Physics and Materials Sciences
Principles and Methodologies
By R Srinivasan, T G Ramesh, G Umesh and C S Sundar
ISBN 9798886131208 • PB • 532pp
Original Price US$168
Indian Edition at Rs 1950 • Year 2025

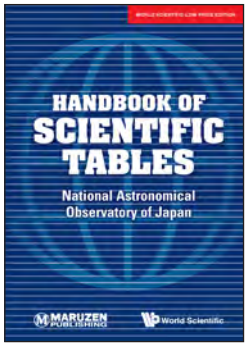
There have been new developments in experimental techniques for preparing and characterizing materials and for measuring their properties. These techniques are not being taught to students at the master's or even doctoral levels because there is no single book which deals with all these techniques at a basic level. The present book is an attempt to overcome this problem.

The book is divided into five sections: (1) Techniques for preparing materials in the bulk, nanoscale and thin film forms; (2) Techniques for characterizing materials like X ray and neutron powder diffraction, ESCA, Ellipsometry for thin films, Ultrasonic techniques, Electron microscopy, Surface probe techniques and Positron annihilation for defect studies; (3) Techniques for measurements, at research level, of the elastic, thermal, electrical, dielectric and magnetic properties; (4) Spectroscopic techniques such as NMR-EPR spectroscopy, IR, Visible-UV spectroscopy and Mossbauer spectroscopy and (5) Phase transitions. In each of the above topics the basic principles are clearly laid out, the experimental set-ups are described, and typical examples are cited to illustrate the physics revealed by these techniques.

The book can be used for a two-semester course on experimental techniques in physics and materials science at the master's and pre-doctoral degree levels for students.

Contents
- Techniques for Preparation of Materials
- Techniques for Materials Characterization
- Techniques for Measurement of Physical Properties
- Thermal Properties
- Electrical Transport Properties
- Spectroscopic Techniques
- Phase Transitions

Readership: Academic researchers and graduates in physics and materials science.



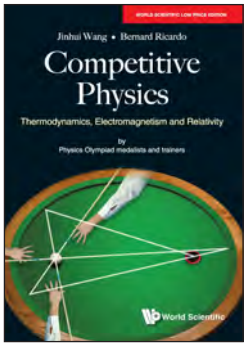
Handbook of Scientific Tables
By National Astronomical Observatory of Japan
ISBN 9781944660338 • PB • 1056pp
Original Price US$268
Indian Edition at Rs 2650 • Year 2023

This data book of scientific information is an essential guide for all STEM researchers, teachers and students. It comprises six sections on astronomy, meteorology, physics/chemistry, earth science, biology, and environmental science.

The book is useful not only for researchers and engineers, but also for science writers, as it covers carefully selected and important data that have been reviewed by experts from diverse fields for over 90 years.

Contents
- Astronomy Section
- Meteorology Section
- Physics and Chemistry Section
- Earth Science Section
- Life Science Section
- Environmental Science Section

Readership: Undergraduate, graduate and research students; research professionals; general public.



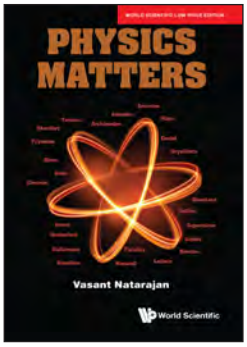
Competitive Physics
Thermodynamics, Electromagnetism and Relativity
By Jinhui Wang & Bernard Ricardo
ISBN 9781944660017 • PB • 960pp
Original Price US$68
Indian Edition at Rs 2695 • Year 2022

Written by a former Olympiad student, Wang Jinhui, and a Physics Olympiad national trainer, Bernard Ricardo, Competitive Physics delves into the art of solving challenging physics puzzles. This book not only expounds a multitude of physics topics from the basics but also illustrates how these theories can be applied to problems, often in an elegant fashion. With worked examples that depict various problem-solving sleights of hand and interesting exercises to enhance the mastery of such techniques, readers will hopefully be able to develop their own insights and be better prepared for physics competitions. Ultimately, problem-solving is a craft that requires much intuition. Yet this intuition, perhaps, can only be honed by trudging through an arduous but fulfilling journey of enigmas.

This is the second part of a two-volume series and will mainly analyze thermodynamics, electromagnetism and special relativity. A brief overview of geometrical optics is also included.

Contents
- Geometrical Optics
- Thermodynamics and Ideal Gases
- The Second Law and Heat Engines
- Heat Transfer and Phase Transitions
- Electrostatics
- Conductors and Dielectrics
- Magnetism
- Currents and EMI
- DC Circuits
- RLC and AC Circuits
- Relativistic Kinematics
- Relativistic Dynamics

Readership: High school students with an interest in the art of physics problem-solving, and/or readers interested to delve into the thought process of solving high school Physics Olympiad problems.

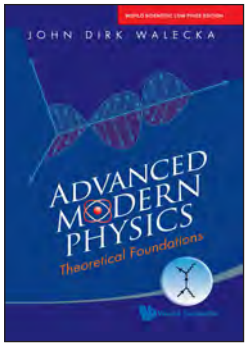


Physics Matters
By Vasant Natarajan
ISBN 9781944660178 • PB • 148pp
Original Price US$29
Indian Edition at Rs 995 • Year 2022

This is a collection of essays on physics topics. It is written as a textbook for non-physics science and arts students, at the undergraduate level. Topics covered include cellphone radiation, lasers, the twin paradox, and more.

Contents
- The Myth of Cellphone Radiation
- What Einstein Meant When He Said "God Does Not Play Dice ..."
- Einstein as an Armchair Detective — The Case of Stimulated Radiation
- Standard Weights and Measures
- The Twin Paradox in Relativity
- Robert Dicke and Atomic Physics
- Oscillations
- The 1997 Nobel Prize in Physics — Laser Cooling and Trapping
- The 2001 Nobel Prize in Physics — Bose–Einstein Condensation
- The 2005 Nobel Prize in Physics — Frequency Comb
- The 2009 Nobel Prize in Physics — Optics That Have Changed Modern Life
- The 2012 Nobel Prize in Physics — Manipulation of Single Particles

Readership: Non-physics undergraduates in both the sciences and the arts.



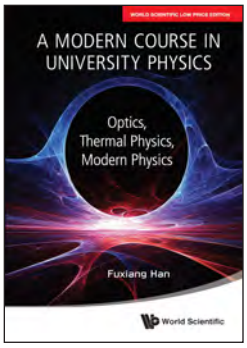
Advanced Modern Physics
Theoretical Foundations
By John Dirk Walecka
ISBN 9780000990037 • PB • 500pp
Original Price US$65
Indian Edition at Rs 1395 • Year 2021

Our understanding of the physical world was revolutionized in the twentieth century — the era of "modern physics". This book, aimed at the very best students, extends the coverage of the theoretical groundwork of today's physics presented in the previous volume: Introduction to *Modern Physics: Theoretical Foundations* (Vol. I). Typically, students have to wade through several courses to see many of these topics. The goal is to give them some idea of where they are going, and how things fit together, as they go along.

The present book focuses on the following topics: reformulation of quantum mechanics, angular momentum, scattering theory, lagrangian field theory, symmetries, Feynman rules, quantum electrodynamics, including higher-order contributions, path integrals, and canonical transformations for quantum systems. Many problems are included that enhance and extend the coverage. The book assumes a mastery of the material in Vol. I, and the continued development of mathematical skills, including multivariable calculus and linear algebra. Several appendices provide important details, and any additional required mathematics. The reader should then find the text, together with the appendices and problems, to be self-contained. The aim is to cover the framework of modern theoretical physics in sufficient depth that things "make sense" to students, and, when finished, the reader should have an elementary working knowledge in the principal areas of theoretical physics of the twentieth century.

Contents
Quantum Mechanics (Revisited) • Angular Momentum • Scattering Theory • Lagrangian Field Theory • Symmetries • Feynman Rules • Quantum Electrodynamics (QED) • High-Order Processes • Path Integrals • Canonical Transformations for Quantum Systems

Readership: Upper level undergraduate and graduate students, researchers in physics.

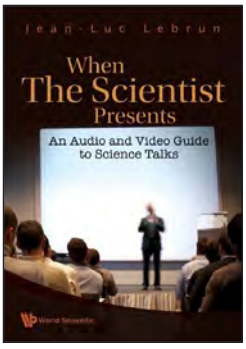


A Modern Course in University Physics
Optics, Thermal Physics, Modern Physics
By Fuxiang Han
ISBN 9780000988393 • PB • 668pp
Original Price US$118
Indian Edition at Rs 1695 • Year 2020

This is a calculus-based textbook on general physics. It contains all the major subjects covered in an intermediate or advanced course on general physics. It also embraces the most recent developments in science and technology. With this book, students can have a better understanding of physics principles and a broad view on the applications of physics ideas. Through coherent and humorous elucidation of physics principles, this book makes learning general physics a fun and interesting activity.

Contents
- Preface
- Geometric Optics
- Interference
- Diffraction
- Polarization
- Basic Concepts in Thermodynamics
- First Law of Thermodynamics
- Second Law of Thermodynamics
- Kinetic Theory of Gases
- Relativity
- Early Quantum Phenomena
- Particle-Wave Duality
- Quantum Mechanics
- Atomic Structure
- Applications of Quantum Mechanics
- Index

Readership: Undergraduate students in science/ engineering field and physics lecturers.



When the Scientist Presents
An Audio and Video Guide to Science Talks
(With DVD-ROM)
By Jean-Luc Lebrun
ISBN 9789812839206 • PB • 264pp
Original Price US$28
Indian Edition at Rs 1095 • Year 2010

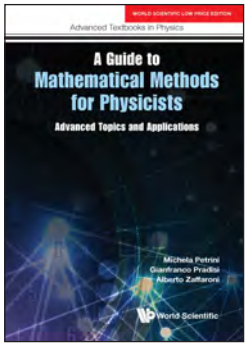
This book looks at the presenting scientist from a novel angle: the presenter-host. When scientists give a talk, the audience ("guests") expects the title of the talk to determine presentation content, they require understandable slides, and they demand visible and audible scientific authority. To each expectation corresponds a set of skills: personal (voice, host qualities, time control), technical (presentation tools and slide design), and scientific (Q&A, slide content).

The author takes an original human factor view of the presentation delivery, in which the audience is easily distracted, rapidly forgetful, and increasingly impatient. Thus, insightful pointers are given on how to deliver the talk, how to craft the slides, and how to prevent the computer from rendering the presenting host-scientist into a "ghost". In addition, the book goes in-depth over the treatment of questions by examining the motives and style of the questioners, and advising on how best to answer to each type of questioner.

The book comes with a DVD for audio and video examples, and includes essential PowerPoint and Keynote techniques that a presenter cannot live without.

Contents
Content Selection: Paper & Oral Presentation: The Difference • Content Filtering Criteria
Audience Expectations: General Audience Expectations • Scientific Audience Expectations
The Slides: Five Slide Types, Five Roles • Slide Design
The Presenter: The Master of Tools • Scientist and Perfect Host • The Grabbing Voice • The Answerable Scientist

Readership: Students, graduates, postgraduates, & professionals seeking help in improving their scientific presentation skills.



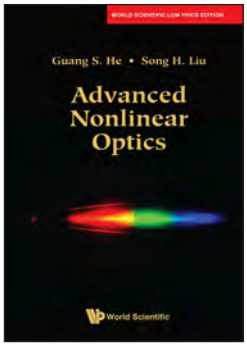
A Guide to Mathematical Methods for Physicists
Advanced Topics and Applications
By Michela Petrini, Gianfranco Pradisi, *et al.*
ISBN 9780000988386 • PB • 308pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2020

This book provides a self-contained and rigorous presentation of the main mathematical tools needed to approach many courses at the last year of undergraduate in Physics and MSc programs, from Electromagnetism to Quantum Mechanics. It complements *A Guide to Mathematical Methods for Physicists* with advanced topics and physical applications. The different arguments are organised in three main sections: Complex Analysis, Differential Equations and Hilbert Spaces, covering most of the standard mathematical method tools in modern physics.

One of the purposes of the book is to show how seemingly different mathematical tools like, for instance, Fourier transforms, eigenvalue problems, special functions and so on, are all deeply interconnected. It contains a large number of examples, problems and detailed solutions, emphasising the main purpose of relating concrete physical examples with more formal mathematical aspects.

Contents
Complex Analysis: Introduction • Mapping Properties of Holomorphic Functions • Laplace Transform • Asymptotic Expansions
Differential Equations: Introduction • The Cauchy Problem for Differential Equations • Boundary Value Problems • Green Functions • Power Series Methods
Hilbert Spaces: Introduction • Compact Operators and Integral Equations • Hilbert Spaces and Quantum Mechanics
Appendices: Review of Basic Concepts • Solutions of the Exercises

Readership: Students and professionals in the field.

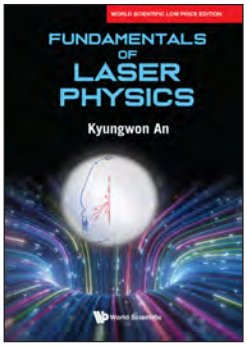


Advanced Nonlinear Optics
By Guang S. He and Song H. Liu
ISBN 9781944660949 • PB • 684pp
Original Price US$128
Indian Edition at Rs 1995 • Year 2024

Advanced Nonlinear Optics is a revised and updated version of Physics of Nonlinear Optics (1999). This book mainly presents the physical principles of a great number of nonlinear optical effects discovered after the advent of lasers. All these nonlinear optical effects can find their special applications in modern optics and photonics. The major categories of nonlinear optical effects specifically covered in this book are as follows: 1) Second-order (three-wave) frequency mixing; 2) Third-order (four-wave) frequency mixing; 3) Nonlinear refractive-index changes; 4) Self-focusing, self-phase modulation, and spectral self-broadening; 5) Stimulated scattering effects; 6) Optical phase-conjugation; 7) Optical coherent transient effects; 8) Nonlinear spectroscopic effects; 9) Optical bistability; 10) Multi-photon nonlinear optical effects; 11) Fast and slow light effects; 12) Detailed theory of nonlinear susceptibilities.

Contents:
Introduction to Nonlinear Optics • Fundamental Knowledge of Nonlinear Polarization of a Medium • Second-Order Nonlinear (Three-Wave) Frequency Mixing • Third-Order Nonlinear (Four-Wave) Frequency Mixing • Intense Light Induced Refractive-Index Changes • Self-Focusing, Self-Phase Modulation, and Spectral Self-Broadening • Stimulated Scattering of Intense Coherent Light • Optical Phase Conjugation • Optical Coherent Transient Effects • Nonlinear Laser Spectroscopic Effects • Optical Bistability • Multi-Photon Nonlinear Optical Effects • Principles of Fast and Slow Light Propagation • Detailed Theory of Nonlinear Susceptibilities • Appendices

Readership: Graduate students and research scientists/engineers who work in optics, electro-optics, laser technology, opto-electronics, quantum electronics, photonics, engineering, chemistry and other multi-disciplinary fields.

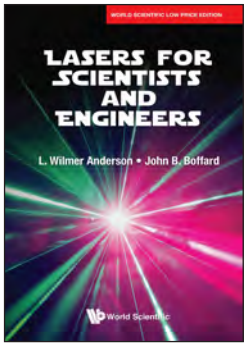


Fundamentals of Laser Physics
By Kyungwon An
ISBN 9798886131246 • PB • 324pp
Original Price US$68
Indian Edition at Rs 1595 • Year 2025

This book is intended as a textbook on laser physics for advanced undergraduates and first-year graduate students in physics and engineering who need to use lasers in their labs and want to understand the physical processes involved with the laser techniques in their fields of study. This book aims to provide a coherent theoretical framework on the light–matter interaction involved with lasers in such a way that students can easily understand the essential topics related to lasers and their applications and get accustomed to the latest cutting-edge research developments. Most of all, the content of this book is concise to be covered in a semester.

Contents:
- Classical Theory of Emission and Absorption
- Einstein's Theory of Matter–Field Interaction
- Semiclassical Theory of Atom–Field Interaction
- Spectral Line Broadening
- Lamb-Dip Spectroscopy
- Optical Bloch Equation
- More Applications of Bloch Equation
- Rate Equation Approximation
- Coherent Pulse Propagation
- Quantum Theory of Laser
- Strong-Coupling Regime of Cavity QED
- Survey of Various Lasers
- Pulsed Lasers and Frequency Combs
- Other Laser-Related Topics
- Single-Photon Sources and Novel Lasers
- Non-Hermitian Laser
- Exceptional-Point Lasers

Readership: Advanced undergraduates and first-year graduate students in physics and engineering who need to use lasers in their labs.



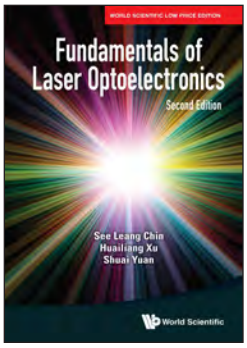
Lasers for Scientists and Engineers
By L. Wilmer Anderson and John B. Boffard
ISBN 9781944660963 • PB • 412pp
Original Price US$58
Indian Edition at Rs 1595 • Year 2024

Since the invention of the laser, the variety of lasers and their uses have grown at a phenomenal rate. Scientists and engineers have at their disposal an enormous array of sophisticated laser equipments with the possibility of carrying out experiments that were inconceivable only a few decades ago. *Lasers for Scientists and Engineers* is a grand and glorious book that discusses the principles of laser operation and the details of how selected lasers operate.

This book is short and easy to read, enabling the reader to thoroughly grasp the subject, with discussions that begin at an elementary level and lead to a complete understanding of lasers. This book is suitable for a one semester college course for upper-level undergraduate or first year graduate level students in physics, chemistry, biology, astronomy, and the various fields of engineering. The background needed for this book would be junior level courses in optics and modern physics including elementary quantum mechanics.

Contents:
- An Introduction to Lasers
- Stimulated Emission
- The Criterion for Laser Action
- Line Shapes
- Saturation
- Laser Photon Densities
- Laser Optical Cavities
- Diode Lasers
- Solid State Impurity Ion Lasers
- The Helium-Neon Laser
- Gas Lasers
- Tunable Lasers
- Nonlinear Optics
- Topics in Quantum Optics

Readership: Advanced undergraduates and graduate students in physics and electrical engineering, practicing engineers, and non-experts interested in all-optical network technologies.

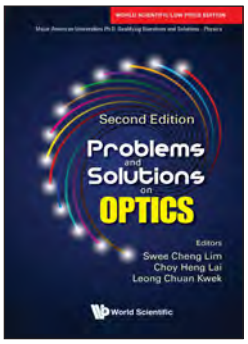


Fundamentals of Laser Optoelectronics, 2nd Edition
By See Leang Chin, Huailiang Xu & Shuai Yuan
ISBN 9798886130034 • PB • 364pp
Original Price US$58
Indian Edition at Rs 1695 • Year 2024

This textbook is based on a course given by the first-named author to third and fourth year undergraduate students from physics, engineering physics and electrical engineering. The purpose is to introduce and explain some of the fundamental principles underlying laser beam control in optoelectronics, especially those in relation to optical anisotropy which is at the heart of many optical devices. The book attempts to give the reader the background knowledge needed to work in a laser, optoelectronic or photonic environment, and to manage and handle laser beam equipment with ease. In this edition, recent research results on modern technologies and instruments relevant to laser optoelectronics have been added to each chapter. New material include: chirped pulse amplification for petawatt lasers; optical anisotropy; physical explanations for group velocity dispersion, group delay dispersion, and third order dispersion; an introduction of different types of laser systems; and both optical isotropy and anisotropy in different types of harmonic generation.

Contents
Introduction • Maxwell's Equations, Wave Equation and Waves • Snell's Law, Fresnel Equations, Brewster Angle and Critical Angle • Resonator: A Geometrical View • The Laser • Paraxial Gaussian Wave Propagation and Modes • Optical Anisotropy in a Lossless Medium • Polarization, Its Manipulation and Jones Vectors • Electric Field-Induced Anisotropy • Mechanical Force Induced Anisotropy and Acousto-Optics • Magnetic Field-Induced Anisotropy • Importance of Anisotropy in Second-Harmonic Generation • Mode Locking and Carrier-Envelope Phase Locking • Chirped Pulse Amplification • Index

Readership: Undergraduate physics, engineering physics and electrical engineering courses devoted to laser optoelectronics. Graduated students and scientists working in the fields of physics, engineering physics and electrical engineering researching on laser optoelectronics may also benefit from the book.



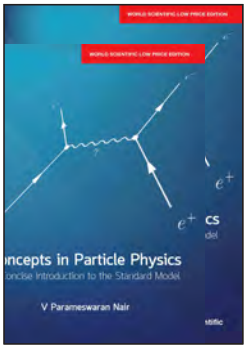
Problems and Solutions on Optics, 2nd Editon
Edited By Swee Cheng Lim, Choy Heng Lai & Leong Chuan Kwek
ISBN 9780000989031 • PB • 236pp
Original Price US$48
Indian Edition at Rs 1195 • Year 2020

This volume is a compilation of carefully selected questions at the PhD qualifying exam level, including many actual questions from Columbia University, University of Chicago, MIT, State University of New York at Buffalo, Princeton University, University of Wisconsin and the University of California at Berkeley over a twenty-year period. Topics covered in this book include geometrical optics, quantum optics, and wave optics.

This latest edition has been updated with more problems and solutions, bringing the total to over 200 problems. The original problems have been modernized, and outdated questions removed, placing emphasis on those that rely on calculations. The problems range from fundamental to advanced in a wide range of topics on optics, easily enhancing the student's knowledge through workable exercises. Simple-to-solve problems play a useful role as a first check of the student's level of knowledge whereas difficult problems will challenge the student's capacity on finding the solutions.

Contents
Preface
Part I Geometrical Optics (1001–1047)
Part II Wave Optics (2001–2115)
Part III Quantum Optics (3001–3037)

Readership: Lecturers, postgraduates and advanced undergraduates in physics.



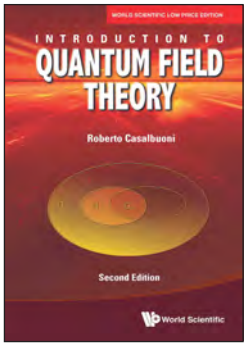
Concepts in Particle Physics
A Concise Introduction to the Standard Model
By V Parameswaran Nair
ISBN 9781944660987 • PB • 328pp
Original Price US$98
Indian Edition at Rs 1695 • Year 2024

The 2013 discovery of the Higgs boson posed a challenge to both physics undergraduates and their instructors. Since particle physics is seldom taught at the undergraduate level, the question "what is the Higgs and why does its discovery matter?" is a common question among undergraduates. Equally, answering this question is a problem for physics instructors.

This book is an attempt to put the key concepts of particle physics together in an appealing way, and yet give enough extra tidbits for students seriously considering graduate studies in particle physics. It starts with some recapitulation of relativity and quantum mechanics, and then builds on it to give both conceptual ideas regarding the Standard Model of particle physics as well as technical details. It is presented in an informal lecture style, and includes "remarks" sections where extra material, history, or technical details are presented for the interested student. The last lecture presents an assessment of the open questions, and where the future might take us.

Contents
The Standard Model • Review of Special Relativity • Quantum Mechanics and the Propagator • Scattering Processes and Feynman Diagrams • Photons and the Electromagnetic Field • Processes with Photons • Cross Section and Dimensional Analysis • More on the Dirac Equation • Other Forces: Weak Interactions • The Gauge Principle I and II • Gauge Symmetry: The Matrix Generalization I and II • Back to Particles and The Strong Nuclear Force • More on Quantum Chromodynamics (QCD) • Mesons and Baryons • Spontaneous Symmetry Breaking • Superconductivity and Electroweak Interactions • Electroweak Interactions and the Story of Mass • CP-Violation and Matter vs Antimatter • Many Big Questions Remain

Readership: Advanced undergraduates studying particle physics.

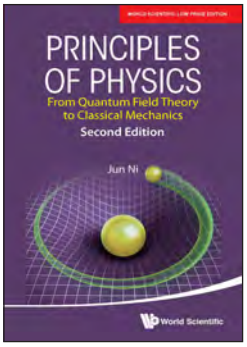


Introduction to Quantum Field Theory, 2nd Edition
By Roberto Casalbuoni
ISBN 9781944660901 • PB • 380pp
Original Price US$98
Indian Edition at Rs 1495 • Year 2024

This book deals with quantum field theory, the language of modern elementary particles physics. Based on university lectures given by the author, this volume provides a detailed technical treatment of quantum field theory that is particularly useful for students; it begins with the quantization of the most important free fields, the scalar, the spin-1/2 and the photon fields, and is then followed by a detailed account of symmetry properties, including a discussion on global and local symmetries and the spontaneous breaking of symmetries. Perturbation theory, one-loop effects for quantum electrodynamics, and renormalization properties are also covered. In this second edition new chapters have been introduced with a general description of path integral quantization both on quantum mechanics and in quantum field theory, with a particular attention to the gauge fields. The path integral quantization of Fermi fields is also discussed.

Contents
- Introduction
- Lagrangian Formalism for Continuum Systems and Quantization
- The Klein-Gordon Field
- The Dirac Field
- Vector Fields
- Symmetries in Field Theories
- Time Ordered Products
- Perturbation Theory
- Applications
- One-Loop Renormalization
- Path Integral Formulation of Quantum Mechanics
- The Path Integral in Field Theory
- The Quantization of the Gauge Fields

Readership: Advanced undergraduate and graduate students in physics.



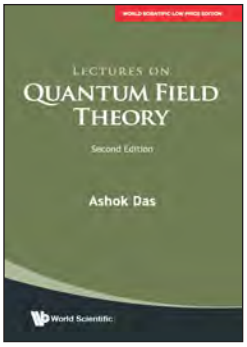
Principles of Physics, 2nd Edition
From Quantum Field Theory to Classical Mechanics
By Jun Ni
ISBN 9780000991737 • PB • 560pp
Original Price US$98
Indian Edition at Rs 1695 • Year 2024

This book starts from a set of common basic principles to establish the basic formalisms of all disciplines of fundamental physics, including quantum field theory, quantum mechanics, statistical mechanics, thermodynamics, general relativity, electromagnetism, and classical mechanics. Instead of the traditional pedagogic way, the author arranges the subjects and formalisms in a logical order, i.e. all the formulas are derived from the formulas before them. The formalisms are also kept self-contained. Most mathematical tools are given in the appendices. Although this book covers all the disciplines of fundamental physics, it contains only a single volume because the contents are kept concise and treated as an integrated entity, which is consistent with the motto that simplicity is beauty, unification is beauty, and thus physics is beauty.

This can be used as an advanced textbook for graduate students. It is also suitable for physicists who wish to have an overview of fundamental physics.

Contents
Preface • Preface to the Second Edition • Basic Principles • Quantum Fields • Quantum Fields in the Riemann Spacetime • Symmetry Breaking • Interacting Quantum Fields • From Quantum Field Theory to Quantum Mechanics • Electromagnetic Field • Quantum Mechanics • Applications of Quantum Mechanics • Statistical Mechanics • Applications of Statistical Mechanics • Relativity Theory • **Appendices:** Tensors • Functional Formula • Gaussian Integrals • Grassmann Algebra • Euclidean Representation • Some Useful Formulas • Jacobian • Geodesic Equation • Bibliography • Index

Readership: This is suitable for graduate students and physicists who wish to have an overview of fundamental physics.

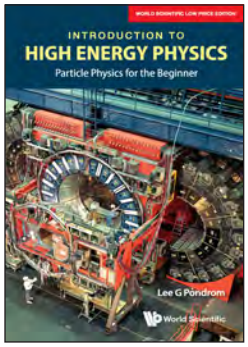


Lectures on Quantum Field Theory, 2nd Edition
By Ashok Das
ISBN 9781944660314 • PB • 940pp
Original Price US$98
Indian Edition at Rs 2195 • Year 2023

This book comprises the lectures of a two-semester course on quantum field theory, presented in a quite informal and personal manner. The course starts with relativistic one-particle systems, and develops the basics of quantum field theory with an analysis on the representations of the Poincaré group. Canonical quantization is carried out for scalar, fermion, Abelian and non-Abelian gauge theories. Covariant quantization of gauge theories is also carried out with a detailed description of the BRST symmetry. The Higgs phenomenon and the standard model of electroweak interactions are also developed systematically. Regularization and (BPHZ) renormalization of field theories as well as gauge theories are discussed in detail, leading to a derivation of the renormalization group equation. In addition, two chapters — one on the Dirac quantization of constrained systems & another on discrete symmetries — are included for completeness, although these are not covered in the two-semester course.

This *second edition* includes two new chapters, one on Nielsen identities and the other on basics of global supersymmetry. It also includes two appendices, one on fermions in arbitrary dimensions and the other on gauge invariant potentials and the Fock-Schwinger gauge.

Contents
Relativistic Equations • Solutions of the Dirac Equation • Properties of the Dirac Equation • Representations of Lorentz & Poincaré Groups • Free Klein–Gordon Field Theory • Self-Interacting Scalar Field Theory • Complex Scalar Field Theory • Dirac Field Theory • Maxwell Field Theory • Dirac Method for Constrained Systems • Discrete Symmetries • Yang–Mills Theory • BRST Invariance and Its Consequences • Higgs Phenomenon and the Standard Model • Regularization of Feynman Diagrams • Renormalization Theory • Renormalization Group and Equation • Nielsen Identities and Gauge Independence of Physical Parameters • Basics of Global Supersymmetry • Index

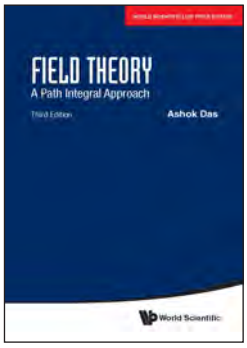


Introduction to High Energy Physics
Particle Physics for The Beginner
By Lee G Pondrom
ISBN 9781944660369 • PB • 552pp
Original Price US$98
Indian Edition at Rs 2550 • Year 2023

Elementary particle physics is a mature subject, with a wide variety of topics. Size considerations require any text to make choices in the subject matter, and such choices are to a large extent a matter of taste. Each topic in this text has been selected for its accessibility to as wide an audience of interested readers as possible, without any compromise in mathematical sophistication. There are of necessity a lot of formulas, but every one is derived, and an effort has been made to explain the various steps and clever tricks, and how to avoid pitfalls. The text is supplemented by exercises at the end of each chapter. The reader is urged to do the exercises that are designed to increase one's skills in the material. The goal of the book is to bring to undergraduates an ability to enjoy this interesting subject.

Contents
- Introduction
- Special Relativity
- A Little Field Theory
- Quantum Electrodynamics
- Electrodynamics with Protons and Neutrons
- Weak Interactions
- Electroweak Phenomenology
- Electroweak Theory
- Heavy Quark Bound States, Mixing, and CP Violation

Readership: Advanced undergraduate and graduate physics students.



Field Theory, 3rd Edition
A Path Integral Approach
By Ashok Das
ISBN 9781944659950 • PB • 488pp
Original Price US$78
Indian Edition at Rs 1450 • Year 2022

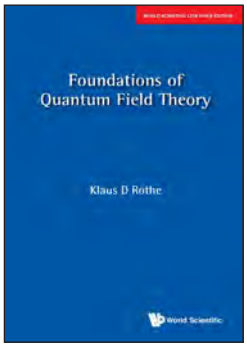
This unique book describes quantum field theory completely within the context of path integrals. With its utility in a variety of fields in physics, the subject matter is primarily developed within the context of quantum mechanics before going into specialized areas.

All the existing chapters of the previous edition have been expanded for more clarity. The chapter on anomalies and the Schwinger model has been completely rewritten for better logical clarity. Two new chapters have been added at the request of students and faculty worldwide. The first describes Schwinger's proper time method with simple examples both at zero and at finite temperature while the second develops the idea of zeta function regularization with simple examples.

This latest edition is a comprehensive and much expanded version of the original text.

Contents
- Introduction
- Path Integrals and Quantum Mechanics
- Harmonic Oscillator
- Generating Functional
- Path Integrals for Fermions
- Supersymmetry
- Semi-Classical Methods
- Path Integral for the Double Well
- Path Integral for Relativistic Theories
- Effective Action
- Invariances and Their Consequences
- Gauge Theories
- Anomalies
- Systems at Finite Temperature
- Ising Model
- Proper Time Formalism
- Zeta Function Regularization
- Index

Readership: Researchers and practitioners in high energy, theoretical and quantum physics.

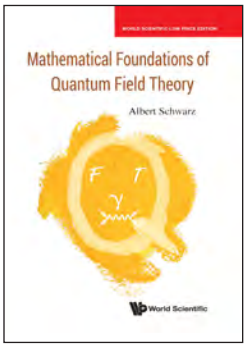


Foundations of Quantum Field Theory
By Klaus D Rothe
ISBN 9780000990365 • PB • 352pp
Original Price US$58
Indian Edition at Rs 1995 • Year 2021

Based on a two-semester course held at the University of Heidelberg, Germany, this book provides an adequate resource for the lecturer and the student. The contents are primarily aimed at graduate students who wish to learn about the fundamental concepts behind constructing a Relativistic Quantum Theory of particles and fields. So it provides a comprehensive foundation for the extension to Quantum Chromodynamics and Weak Interactions, that are not included in this book.

Contents
The Principles of Quantum Physics
Lorentz Group and Hilbert Space
Search for a Relativistic Wave Equation
The Dirac Equation
The Free Maxwell Field
Quantum Mechanics of Dirac Particles
Second Quantization
Canonical Quantization
Global Symmetries and Conservation Laws
The Scattering Matrix
Perturbation Theory
Parametric Representation of a General Diagram
Functional Methods
Dyson–Schwinger Equation
Regularization of Feynman Diagrams
Renormalization
Broken Scale Invariance and Callan–Symanzik Equation
Renormalization Group
Spontaneous Symmetry Breaking
Effective Potentials

Readership: Graduate students and researchers interested in quantum field theory.



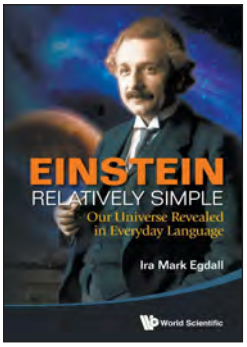
Mathematical Foundations of Quantum Field Theory
By Albert Schwarz
ISBN 9780000989246 • PB • 460pp
Original Price US$58
Indian Edition at Rs 1395 • Year 2020

The book is very different from other books devoted to quantum field theory, both in the style of exposition and in the choice of topics. Written for both mathematicians and physicists, the author explains the theoretical formulation with a mixture of rigorous proofs and heuristic arguments; references are given for those who are looking for more details. The author is also careful to avoid ambiguous definitions and statements that can be found in some physics textbooks.

In terms of topics, almost all other books are devoted to relativistic quantum field theory, conversely this book is concentrated on the material that does not depend on the assumptions of Lorentz-invariance and/or locality. It contains also a chapter discussing application of methods of quantum field theory to statistical physics, in particular to the derivation of the diagram techniques that appear in thermo-field dynamics and Keldysh formalism. It is not assumed that the reader is familiar with quantum mechanics; the book contains a short introduction to quantum mechanics for mathematicians and an appendix devoted to some mathematical facts used in the book.

Contents
Preface • Principles of Quantum Theory • Quantum Mechanics of Single-Particle and Non-Identical Particle Systems • Quantum Mechanics of a System of Identical Particles • Operators of Time Evolution: *S(t, t0)* & *Sα(t, t0)* • Theory of Potential Scattering • Operators on the Fock Space • Wightman and Green's Functions • Translation-Invariant Hamiltonians • The Scattering Matrix for Translation-Invariant Hamiltonians • Axiomatic Scattering Theory • Translation-Invariant Hamiltonian (Further Investigation) • Axiomatic Relativistic Quantum Field Theory • Methods of Quantum Field Theory in Statistical Physics

Readership: For students, academics and researchers interested in statistical physics.



Einstein Relatively Simple
Our Universe Revealed in Everyday Language
By Ira Mark Egdall
ISBN 9789814525596 • PB • 400pp
Original Price US$28
Indian Edition at Rs 599 • Year 2014

"*Outstanding Academic Title for 2014*"
— by CHOICE

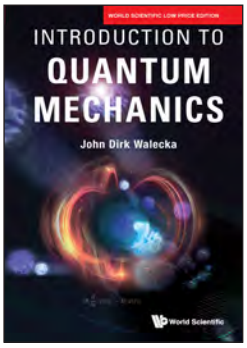
Einstein Relatively Simple brings together for the first time an exceptionally clear explanation of both special and general relativity. It is for people who always wanted to understand Einstein's ideas but never thought they could.

Told with humor, enthusiasm, and rare clarity, this entertaining book reveals how a former high school drop-out revolutionized our understanding of space and time. From $E=mc^2$ and everyday time travel to black holes and the big bang, Einstein Relatively Simple takes us all, regardless of our scientific backgrounds, on a mind-boggling journey through the depths of Einstein's universe. Along the way, we track Einstein through the perils and triumphs of his life — follow his thinking, his logic, and his insights — and chronicle the audacity, imagination, and sheer genius of the man recognized as the greatest scientist of the modern era.

In Part I on special relativity we learn how time slows and space shrinks with motion, and how mass and energy are equivalent. Part II on general relativity reveals a cosmos where black holes trap light and stop time, where wormholes form gravitational time machines, where space itself is continually expanding, and where some 13.7 billion years ago our universe was born in the ultimate cosmic event — the Big Bang.

Contents
Part I: Einstein Discovered: Special Relativity, $E = mc^2$, and Spacetime
Part II: Einstein Revealed: General Relativity, Gravity, and the Cosmos

Readership: Adults and young people all over the world who are curious about Einstein and how the universe works.



Introduction to Quantum Mechanics
By John Dirk Walecka
ISBN 9798886130591 • PB • 160pp
Original Price US$38
Indian Edition at Rs 1350 • Year 2024

The author has published two texts on classical physics, *Introduction to Classical Mechanics* and *Introduction to Electricity and Magnetism*, both meant for initial one-quarter physics courses. The present text completes the first-year introduction to physics with a set of lectures on Introduction to Quantum Mechanics, the very successful theory of the microscopic world. The Schrödinger equation is motivated and presented. Several applications are explored, including scattering and transition rates. The applications are extended to include quantum electrodynamics and quantum statistics. There is a discussion of quantum measurements. The lectures then arrive at a formal presentation of quantum theory together with a summary of its postulates. A concluding chapter provides a brief introduction to relativistic quantum mechanics. An extensive set of accessible problems again enhances and extends the coverage.

The goal of these three texts is to provide students and teachers alike with a good, understandable, introduction to the fundamentals of classical and quantum physics.

Contents
- Motivation
- Wave Packet for Free Particle
- Include Potential V (x)
- Scattering
- Transition Rate
- Quantum Electrodynamics
- Quantum Statistics
- Quantum Measurements
- Formal Structure of Quantum Mechanics
- Quantum Mechanics Postulates
- Relativity
- Problems
- Appendix
- Bibliography
- Index

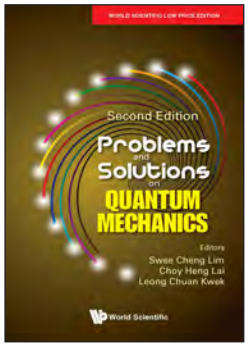
Readership: Undergraduate students in physics.

Quantum Computing
Physics, Blockchains, and Deep Learning Smart Networks
By Melanie Swan, Renato P. dos Santos and Frank Witte
ISBN 9798886130805 • PB • 400pp
Original Price US$138
Indian Edition at Rs 1850 • Year 2024

This book provides insight as to how quantum information science as a paradigm shift in computing may influence other high-impact digital transformation technologies, such as blockchain and machine learning. Smart networks refer to the idea that the internet is no longer simply a communications network, but rather a computing platform. The trajectory is that of communications networks becoming computing networks (with self-executing code), and perhaps ultimately quantum computing networks. Smart network technologies are conceived as autonomous self-operating computing networks. This includes blockchain economies, deep learning neural networks, autonomous supply chains, self-piloting driving fleets, unmanned aerial vehicles, industrial robotics cloudminds, real-time bidding for advertising, high-frequency trading networks, smart city IoT sensors, and the quantum internet.

Contents
- Introduction
- Smart Networks and Quantum Computing
- Blockchain and Zero-Knowledge Proofs
- Machine Learning and Artificial Intelligence
- Smart Network Field Theories
- The AdS/CFT Correspondence and Holographic Codes
- Quantum Smart Networks
- Glossary
- Index

Readership: Thought-leaders, executives, industry strategists, research scientists, graduate students, advanced undergraduate students, policy-makers, government regulators, corporate practitioners, and entrepreneurs in the areas of computer science, blockchain, machine learning, quantum information science, and theoretical physics.



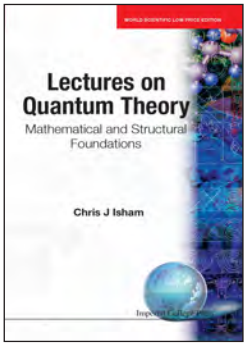
Problems and Solutions on Quantum Mechanics, 2nd Edition
Edited By Swee Cheng Lim, Choy Heng Lai & Leong Chuan Kwek
ISBN 9798886130195 • PB • 700pp
Original Price US$78
Indian Edition at Rs 2195 • Year 2024

This volume is a comprehensive compilation of carefully selected questions at the PhD qualifying exam level, including many actual questions from Columbia University, University of Chicago, MIT, State University of New York at Buffalo, Princeton University, University of Wisconsin and the University of California at Berkeley over a twenty-year period. Topics covered in this book include the basic principles of quantum phenomena, particles in potentials, motion in electromagnetic fields, perturbation theory and scattering theory, among many others.

This latest edition has been updated with more problems and solutions and the original problems have also been modernized, excluding outdated questions and emphasizing those that rely on calculations. The problems range from fundamental to advanced in a wide range of topics on quantum mechanics, easily enhancing the student's knowledge through workable exercises.

Contents
- Preface
- Basic Principles and One-Dimensional Motions
- Central Potentials
- Spin and Angular Momentum
- Motion in Electromagnetic Fields
- Perturbation Theory
- Scattering Theory & Quantum Transitions
- Many-Particle Systems
- Miscellaneous Topics
- Index to Problems

Readership: Lecturers, postgraduates and advanced undergraduates in physics.

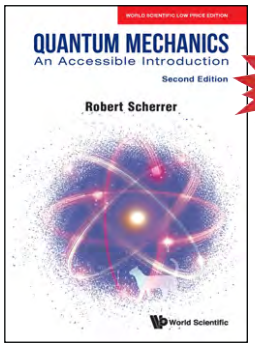


Lectures on Quantum Theory
Mathematical and Structural Foundations
By Chris J Isham
ISBN 9781944659967 • PB • 276pp
Original Price US$33
Indian Edition at Rs 1195 • Year 2022

This book is based on material taught to final-year physics undergraduates as part of the theoretical physics option at Imperial College. After a self-contained introduction to the essential ideas of vector spaces and linear operators, a bridge is built between the concepts and mathematics of classical physics, and the new mathematical framework employed in quantum mechanics. The axioms of nonrelativistic quantum theory are introduced, and shown to lead to a variety of new conceptual problems. Subjects discussed include state-vector reduction, the problem of measurement, quantum entanglement, the Kochen-Specker theorem, and the Bell inequalities. The book includes twenty-five problems with worked solutions.

Contents
- Introduction
- Vector Spaces
- Linear Operators
- Properties in Classical Physics
- The General Formalism of Quantum Theory
- Technical Developments
- Unitary Operators in Quantum Theory
- Some Conceptual Issues in Quantum Theory
- Properties in Quantum Physics
- Problems and Answers
- Bibliography
- Index

Readership: Advanced undergraduates and graduates in physics, chemistry and electrical engineering.



NEW

Quantum Mechanics, 2nd Edition
An Accessible Introduction
By Robert Scherrer
ISBN 9798886131826 • PB • 384pp
Original Price US$58
Indian Edition at Rs 1495 • Year 2026

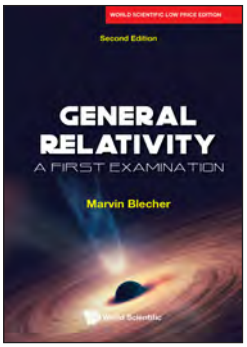
This book provides a comprehensive introduction to quantum mechanics from the ground up. It is designed to be completely self-contained and assumes very little knowledge or mathematical background on the part of students as it takes them through the major topics of quantum mechanics.

Designed to be appropriate for students across a wide range of abilities and backgrounds, this book will be particularly helpful for students who might lack some of the mathematical background typically assumed in an undergraduate quantum mechanics course.

This second edition includes expanded and improved coverage of the Heisenberg uncertainty principle, the use of ladder operators to solve the harmonic oscillator, as well as the treatment of the Lamb shift.

Contents
- The Origins of Quantum Mechanics
- Math Interlude A: Complex Numbers and Linear Operators
- The Schrödinger Equation
- Solutions of the One-Dimensional Time-Independent Schrödinger Equation
- Math Interlude B: Linear Algebra
- Solutions of the Three-Dimensional Time-Independent Schrödinger Equation
- Math Interlude C: Matrices, Dirac Notation, and the Dirac Delta Function
- Spin Angular Momentum
- Time-Independent Perturbation Theory
- The Variational Principle
- Time-Dependent Perturbation Theory
- Scattering Theory
- Multiparticle Schrödinger Equation
- Modern Applications of Quantum Mechanics
- Relativistic Quantum Mechanics

Readership: Undergraduate students, useful for all Physics majors and some Engineering majors; Educators of undergrad students.



General Relativity, 2nd Edition
A First Examination
By Marvin Blecher
ISBN 9798886130539 • PB • 240pp
Original Price US$38
Indian Edition at Rs 1395 • Year 2024

This textbook is suitable for a one-semester introduction to General Relativity for advanced undergraduates in physics and engineering. The book is concise so that the entire material can be covered in the one-semester time frame. Many of the calculations are done in detail, without difficult mathematics, to help the students. Though concise, the theory development is lucid and the readers are exposed to possible analytic calculations.

In the second edition, the famous twin paradox with acceleration is solved in full from the accelerated observer's frame. The findings of the Event Horizon Telescope (EHT) collaboration, who captured the first ever image of a black hole, are discussed in detail. The geodetic and frame drag precessions of gyroscopes in orbit about a rotating Earth are worked out and the Gravity Probe B (GPB) experiment is discussed. Also in the second edition are some new exercise problems.

Resources are provided to instructors who adopt this textbook for their courses. Adopting instructors can print and copy portions of these resources solely for their teaching needs.

Contents
- Review of Special Relativity
- Vectors and Tensors in Spacetime
- Covariant Differentiation, Equations of Motion
- Curvature
- Gravity and General Relativity
- Classic Solar System Tests of General Relativity
- Gravitational Waves
- Black Holes and Kerr Space
- Cosmology
- Bibliography
- Index

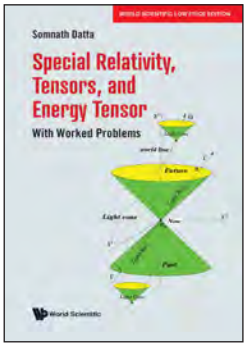
Readership: Advanced undergraduate and graduate physics students.

Unusually Special Relativity
By Andrzej Dragan
ISBN 9781944660536 • PB • 204pp
Original Price US$28
Indian Edition at Rs 1295 • Year 2023

Iconoclastic physics professor and artist Andrzej Dragan presents a unique feast of knowledge on special relativity in a straightforward, progressive manner that even a savvy high school student could follow. Encompassing the derivation of Lorentz transformations to Wigner rotations and Thomas precession; from non-inertial accelerated reference frames to event horizons, curved spacetime, and static black holes; and from the Doppler effect to relativistic structure of electromagnetism, Dragan peels back the enigmatic layers of modern physics to enable a deeper understanding of Einstein's groundbreaking theory.

Comprehensive and elegantly written, full of insightful apparent paradoxes and riddles, but without any complicated math, Dragan's unique overview takes the reader well beyond the orthodox verses of standard Special Relativity to the bleeding edge of "new-fangled" superluminal apocrypha and their relation to Quantum Theory. The book is based on a course on Special Relativity and acclaimed by students taught by Dragan who is a leader of a research group on Relativistic Quantum Information theory at the University of Warsaw and the National University of Singapore.

Contents
- Preface (Before Consuming)
- Let There Be (The Speed Of) Light
- Consequences of Time Dilation and Lorentz Contraction
- Hard Life in 3D
- Quantum Principle of Relativity
- Hard Bodies
- Optical Illusions
- Relativistic Dynamics
- Non-Inertial Frames
- Curved Spacetimes
- Relativity of Electrodynamics
- Bibliography
- Index



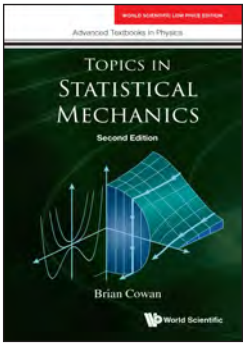
Special Relativity, Tensors, and Energy Tensor
With Worked Problems
By Somnath Datta
ISBN 9780000990518 • PB • 384pp
Original Price US$118
Indian Edition at Rs 1195 • Year 2022

This book takes the reader from the preliminary ideas of the Special Theory of Relativity (STR) to the doorsteps of the General Theory of Relativity (GTR).
The first part explains the main concepts in a layman's language, including STR, the Lorentz transformation, relativistic mechanics. Thereafter the concept of tensors is built up in detail, especially Maxwell's stress tensor with illustrative examples, culminating in the energy-momentum conservation in electromagnetic fields. Mathematical structure of Minkowski's space-time is constructed and explained graphically. The equation of motion is formulated and then illustrated by the example of relativistic rocket. The principle of covariance is explained with the covariant equations of classical electrodynamics. Finally, the book constructs the energy tensor which constitutes the source term in Einstein's field equation, which clears the passage to the GTR.

In the book, the concepts of tensors are developed carefully and a large number of numerical examples taken from atomic and nuclear physics. The graphs of important equations are included. This is suitable for studies in classical electrodynamics, modern physics, and relativity.

Contents
Einsteinian Relativity: What Is Relativity? • Einstein's Postulates, Their Paradoxes, and How to Resolve Them • Lorentz Transformation • Relativistic Mechanics • Amazing Power of Tensors: Let Us Know Tensors • Maxwell's Stress Tensor • Physics in Four Dimensions: Space–Time and Its Inhabitants • Four Vectors of Relativistic Mechanics • Relativistic Rocket • Magnetism as a Relativistic Effect • Principle of Covariance with Application in Classical Electrodynamics • 4-Momentum Conservation in Continuous Media: The Energy Tensor • Appendices

Readership: Advanced undergraduate and graduate physics students.



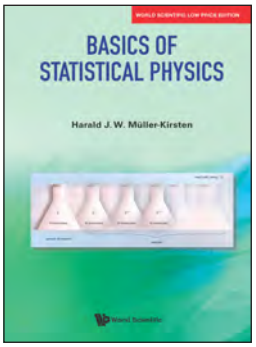
Topics in Statistical Mechanics, 2nd Edition
By Brian Cowan
ISBN 9798886131376 • PB • 452pp
Original Price US$68
Indian Edition at Rs 1895 • Year 2025

Building on the material learned by students in their first few years of study, *Topics in Statistical Mechanics (Second Edition)* presents an advanced level course on statistical and thermal physics. It begins with a review of the formal structure of statistical mechanics and thermodynamics considered from a unified viewpoint. There is a brief revision of non-interacting systems, including quantum gases and a discussion of negative temperatures. Following this, emphasis is on interacting systems. First, weakly interacting systems are considered, where the interest is in seeing how small interactions cause small deviations from the non-interacting case. Second, systems are examined where interactions lead to drastic changes, namely phase transitions. A number of specific examples is given, and these are unified within the Landau theory of phase transitions. The final chapter of the book looks at non-equilibrium systems, in particular the way they evolve towards equilibrium. This is framed within the context of linear response theory. Here fluctuations play a vital role, as is formalised in the fluctuation–dissipation theorem.

The second edition has been revised particularly to help students use this book for self-study. In addition, the section on non-ideal gases has been expanded, with a treatment of the hard-sphere gas, and an accessible discussion of interacting quantum gases. In many cases there are details of *Mathematica* calculations, including *Mathematica* Notebooks, and expression of some results in terms of Special Functions.

Contents
The Methodology of Statistical Mechanics • Practical Calculations with Ideal Systems • Non-ideal Gases • Phase Transitions • Fluctuations and Dynamics • Appendices

Readership: Final year undergraduates, Masters and PhD students in Statistical Mechanics, Thermodynamics and Phase Transitions.



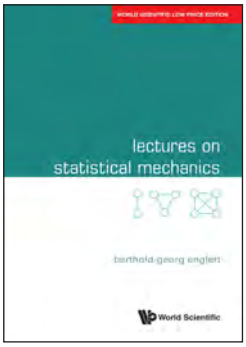
Basics of Statistical Physics, 3rd Edition
By Harald J W Müller-Kirsten
ISBN 9798886130584 • PB • 272pp
Original Price US$58
Indian Edition at Rs 1550 • Year 2024

This introduction to statistical physics concentrates on the basic principles & attempts to explain these in simple terms, supplemented by numerous examples. These basic principles include the difference between classical and quantum statistics, a *priori* probabilities as related to degeneracies, the vital aspect of indistinguishability as compared with distinguishability in classical physics, the differences between conserved & non-conserved elements, the different ways of counting arrangements in the three statistics (Maxwell–Boltzmann, Fermi–Dirac, Bose–Einstein), the difference between maximization of the number of arrangements of elements, and averaging in the Darwin–Fowler method.

Significant applications to solids, radiation and electrons in metals are treated in separate chapters, as well as Bose–Einstein condensation. In this latest edition, apart from a general revision, the topic of thermal radiation has been expanded with a new section on black bodies and an additional chapter on black holes.

Contents
Introduction • Statistical Mechanics of an Ideal Gas (Maxwell) • The a *priori* Probability • Classical Statistics (Maxwell–Boltzmann) • Entropy • Quantum Statistics • Exact Form of Distribution Functions • Application to Radiation (Light Quanta) • Debye Theory of Specific Heat of Solids • Electrons in Metals • Limitations of the Preceding Theory — Improvement with Ensemble Method • Averaging instead of Maximization, and Bose–Einstein Condensation • The Boltzmann Transport Equation • Thermal Radiation of Black Holes

Readership: Advanced undergraduates, graduate students and academics interested in statistical physics.



Lectures on Statistical Mechanics
By Berthold-Georg Englert
ISBN 9780000991768 • PB • 308pp
Original Price US$49
Indian Edition at Rs 1795 • Year 2024

These lecture notes cover Statistical Mechanics at the level of advanced undergraduates or postgraduates. After a review of thermodynamics, statistical ensembles are introduced, then applied to ideal gases, including degenerate gases of bosons and fermions, followed by a treatment of systems with interaction, of real gases, and of stochastic processes.

The book offers a comprehensive and detailed, as well as self-contained, account of material that can and has been covered in a one-semester course for students with a basic understanding of thermodynamics and a solid background in classical mechanics.

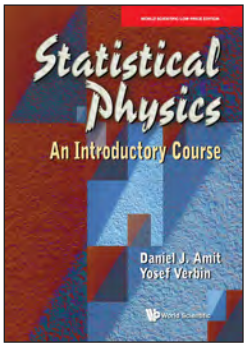
Contents:
- Preface
- Glossary
- Review of Selected Topics in Thermodynamics
- Statistical Ensembles
- Ideal Gases
- Systems with Interaction
- Perturbation Theory
- Real Gases
- Stochastic Processes
- Exercises with Hints
- Index

Readership: Undergraduate and graduate students in Physics.

Advanced Statistical Mechanics
By Jian-Sheng Wang
ISBN 9781944660499 • PB • 224pp
Original Price US$68
Indian Edition at Rs 1195 • Year 2023

This short textbook covers roughly 13 weeks of lectures on advanced statistical mechanics at the graduate level. It starts with an elementary introduction to the theory of ensembles from classical mechanics, and then goes on to quantum statistical mechanics with density matrix. These topics are covered concisely and briefly. The advanced topics cover the mean-field theory for phase transitions, the Ising models and their exact solutions, and critical phenomena and their scaling theory. The mean-field theories are discussed thoroughly with several different perspectives — focusing on a single degree, or using Feynman–Jensen–Bogoliubov inequality, cavity method, or Landau theory. The renormalization group theory is mentioned only briefly. As examples of computational and numerical approach, there is a chapter on Monte Carlo method including the cluster algorithms. The second half of the book studies nonequilibrium statistical mechanics, which includes the Brownian motion, the Langevin and Fokker–Planck equations, Boltzmann equation, linear response theory, and the Jarzynski equality. The book ends with a brief discussion of irreversibility. The topics are supplemented by problem sets (with partial answers) and supplementary readings up to the current research, such as heat transport with a Fokker–Planck approach.

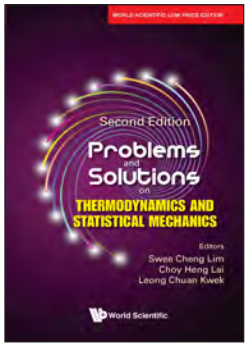
Contents
Preface • Thermodynamics • Foundation of Statistical Mechanics, Statistical Ensembles • Quantum Statistical Mechanics • Phase Transitions, van der Waals Equation • Ising Models and Mean-Field Theories • Ising Models: Exact Methods • Critical Exponents, Scaling, and Renormalization Group • Monte Carlo Methods • Brownian Motion — Langevin and Fokker-Planck Equations • Systems Near and Far from Equilibrium — Linear Response Theory and Jarzynski Equality • The Boltzmann Equation • Answers to Selected Problems • Bibliography • Index



Statistical Physics
An Introductory Course
By Daniel J Amit & Yosef Verbin
ISBN 9781944659974 • PB • 580pp
Original Price US$52
Indian Edition at Rs 2095 • Year 2022

This invaluable textbook is an introduction to statistical physics that has been written primarily for self-study. It provides a comprehensive approach to the main ideas of statistical physics at the level of an introductory course, starting from the kinetic theory of gases and proceeding all the way to Bose–Einstein and Fermi–Dirac statistics. Each idea is brought out with ample motivation and clear, step-by-step, deductive exposition. The key points and methods are presented and discussed on the basis of concrete representative systems, such as the paramagnet, Einstein's solid, the diatomic gas, black body radiation, electric conductivity in metals and superfluidity. The book is written in a stimulating style and is accompanied by a large number of exercises appropriately placed within the text and by self-assessment problems at the end of each chapter. Detailed solutions of all the exercises are provided.

Contents
The Kinetic Theory of Gases: Velocity & Position Distributions of Molecules in a Gas • Brownian Motion • Transport Coefficients • **Statistical Physics of a Paramagnets:** Essential Background in Thermodynamics • Thermodynamics with Magnetic Variables • Microscopic States & Averages • Isolated Paramagnet — Microcanonical Ensemble • Isolated Paramagnet — Subsystems & Temperature • Paramagnet at a Given Temperature • Order, Disorder & Entropy • Comparison with Experiment • **Statistical Physics & Thermodynamics:** The Canonical Ensemble & Thermodynamics • Harmonic Oscillator & Einstein Solid • Statistical Mechanics of Classical Systems • Statistical Mechanics of an Ideal Gas • The Gibbs Paradox & the Third Law • Fluctuations & Thermodynamic Quantities • **From Ideal Gas to Photon Gas:** An Ideal Gas of Molecules with Internal Degrees of Freedom • Gases in Chemical Reactions • Phonon Gas & the Debye Model • Thermodynamics of Electromagnetic Radiation • **Of Fermions & Bosons:** Grand Canonical Ensemble • Statistical Mechanics of Identical Quantum Particles • Electrical Conductivity in Metals • Boson Gas



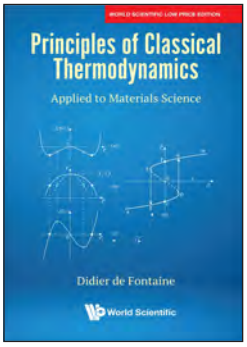
Problems and Solutions on Thermodynamics and Statistical Mechanics, 2nd Edition
Edited By Swee Cheng Lim, *et al.*
ISBN 9781944659998 • PB • 404pp
Original Price US$48
Indian Edition at Rs 1495 • Year 2022

This volume is a compilation of carefully selected questions at the PhD qualifying exam level, including many actual questions from Columbia University, University of Chicago, MIT, State University of New York at Buffalo, Princeton University, University of Wisconsin and the University of California at Berkeley over a twenty-year period. Topics covered in this book include the laws of thermodynamics, phase changes, Maxwell-Boltzmann statistics and kinetic theory of gases.

This latest edition has been updated with more problems and solutions and the original problems have also been modernized, excluding outdated questions and emphasizing those that rely on calculations. The problems range from fundamental to advanced in a wide range of topics on thermodynamics and statistical physics, easily enhancing the student's knowledge through workable exercises. Simple-to-solve problems play a useful role as a first check of the student's level of knowledge whereas difficult problems will challenge the student's capacity on finding the solutions.

Contents
Introduction
Thermodynamics: Thermodynamic States and the First Law (1001–1030) • The Second Law and Entropy (1031–1072) • Thermodynamic Functions and Equilibrium Conditions (1073–1105) • Change of Phase and Phase Equilibrium (1106–1147) • Nonequilibrium Thermodynamics (1148–1159)
Statistical Physics: Probability and Statistical Entropy (2001–2013) • Maxwell-Boltzmann Statistics (2014–2062) • Bose-Einstein and Fermi-Dirac Statistics (2063–2115) • Ensembles (2116–2148) • Kinetic Theory of Gases (2149–2208) • Index

Readership: Lecturers, postgraduates and advanced undergraduates in physics.



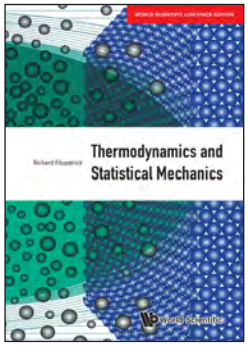
Principles of Classical Thermodynamics
Applied to Materials Science
By Didier de Fontaine
ISBN 9781944660000 • PB • 392pp
Original Price US$48
Indian Edition at Rs 1395 • Year 2022

The aim of this book is to present Classical Thermodynamics in a unified way, from the most fundamental principles to non-uniform systems, thereby requiring the introduction of coarse graining methods, leading for instance to phase field methods. Solutions thermodynamics and temperature–concentration phase diagrams are covered, plus also a brief introduction to statistical thermodynamics and topological disorder. The Landau theory is included along with a general treatment of multicomponent instabilities in various types of thermodynamic applications, including phase separation and order–disorder transitions. Nucleation theory and spinodal decomposition are presented as extreme cases of a single approach involving the all-important role of fluctuations.

In this way, it is hoped that this coverage will reconcile in a unified manner techniques generally presented separately in physics and materials texts.

Contents
Introduction • **Basic Thermodynamics:** Thermodynamic Systems • Fundamental Laws • Thermodynamic Equilibria • Ideal Cases • Single-Component Equilibrium • Solutions • Introduction to Statistical Mechanics • **Materials Applications:** Temperature-Composition Phase Diagrams • Topological Disorder • Chemical Reactions • Point Defect Equilibrium • Interfaces • Non-Uniform Systems • Landau Theory • Thermodynamic Stability of Crystals • Nucleation and Growth • Kinetic Aspects • Summary and Conclusion • Appendices • Index

Readership: Students and professionals in solid state physics and materials science.

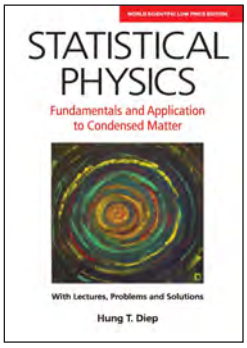


Thermodynamics and Statistical Mechanics
By Richard Fitzpatrick
ISBN 9780000990396 • PB • 360pp
Original Price US$68
Indian Edition at Rs 1695 • Year 2021

This book provides a comprehensive exposition of the theory of equilibrium thermodynamics and statistical mechanics at a level suitable for well-prepared undergraduate students. The fundamental message of the book is that all results in equilibrium thermodynamics and statistical mechanics follow from a single unprovable axiom — namely, the principle of equal a priori probabilities — combined with elementary probability theory, elementary classical mechanics, and elementary quantum mechanics.

Contents
Preface
Introduction
Probability Theory
Statistical Mechanics
Heat and Work
Statistical Thermodynamics
Classical Thermodynamics
Multi-Phase Systems
Applications of Statistical Thermodynamics
Chemical Equilibria
Quantum Statistics
Appendix A: Physical Constants
Appendix B: Classical Mechanics
Appendix C: Wave Mechanics
Bibliography

Readership: Undergraduate and graduate students; lecturers teaching a course on thermodynamics or statistical mechanics in Physics.

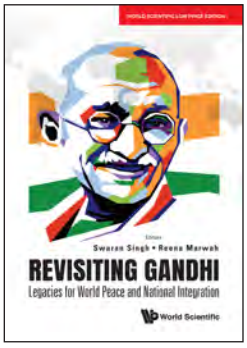


Statistical Physics
Fundamentals and Application to Condensed Matter
By Hung T. Diep
ISBN 9780000989079 • PB • 648pp
Original Price US$78
Indian Edition at Rs 1695 • Year 2020

The aim of this book is to provide the fundamentals of statistical physics and its application to condensed matter. The combination of statistical mechanics and quantum mechanics has provided an understanding of properties of matter leading to spectacular technological innovations and discoveries in condensed matter which have radically changed our daily life. The book gives the steps to follow to understand fundamental theories and to apply these to real materials.

Contents
Fundamentals of Statistical Physics:
Basic Concepts and Tools in Statistical Physics
Isolated Systems: Micro-Canonical Description
Systems at a Constant Temperature: Canonical Description
Open Systems at Constant Temperature: Grand-Canonical Description
Free Fermi Gas
Free Boson Gas
Systems of Interacting Particles: Method of Second Quantization
Application to Condensed Matter:
Symmetry in Crystalline Solids
Interacting Atoms in Crystals: Phonons
Systems of Interacting Electrons — Fermi Liquids
Electrons in Crystalline Solids: Energy Bands
Systems of Interacting Spins: Magnons
Systems of Interacting Spins: Phase Transitions
Superconductivity
Transport in Metals and Semiconductors
Solutions of Problems:
Solutions of Problems of Part 1
Solutions of Problems of Part 2
Appendices

Readership: For students, academics and researchers interested in statistical physics.



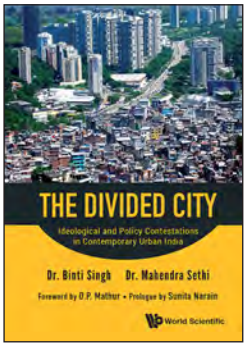
Revisiting Gandhi
Legacies for World Peace and National Integration
Edited By Swaran Singh & Reena Marwah
ISBN 9781944660239 • PB • 308pp
Original Price US$98
Indian Edition at Rs 1195 • Year 2022

This book interrogates several strands of Gandhian design, articulations, methods and ideals, through five sections. These include Theoretical Perspectives, Peace and World Order, Revolutionary Experiments, National Integration and Gandhi in Chinese Discourses. The authors seek to provide answers to questions as: Were Gandhian ideas utopian? What is the contemporary relevance of Gandhi? Do his ideas share convergence with theory in world politics and international relations? What was his role in forging national integration? How did his ideologies and experiments with truth resonate with countries as China?

The writings also underline that being averse to individualism, for Gandhi it was the realm of societal interests which were significant, encompassing the good of humanity, dignity of labor and village-centric development. Development paradigms and health related challenges are articulated in the book to underline the significance of Gandhi's vision of "Leave no one behind" to create an egalitarian society with respect and tolerance. The book presents the essential humility and simplicity of Gandhi.

This book is a must read for those who seek to understand Gandhi in a way that is candid and inclusive. It's a book that conceals nothing and does not shy away from presenting debates on Gandhi. Moreover, it is a factual account, with contributors having relied extensively on archival materials, essays and an extensive review of literature. Hence, the book is replete with pertinent documentation and scholarship and makes a significant value-addition in the literature on Gandhi.

Contents
Revisiting Gandhi's Revolutionary Ideas and Experiments • Theoretical Perspectives • Global Order and World Peace • Gandhi's Revolutionary Experiments • National and Social Integration • Gandhi in Chinese Discourses • Index

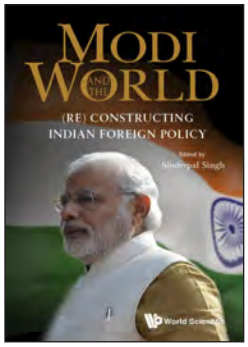


The Divided City
Ideological and Policy Contestations in Contemporary Urban India
By Binti Singh & Mahendra Sethi
ISBN 9789813226975 • PB • 280pp
Original Price US$98
Indian Edition at Rs 1095 • Year 2018

The Divided City contributes to the growing body of scholarly work on cities of the global South. Cities in developing countries, particularly emerging economies, are undergoing rapid urbanization and social transition. Empirically grounded to the contemporary urban situation in India, *The Divided City* is set in an opportune moment to assess how cities fare up to the challenge of inclusive urbanization. It highlights how the urban pathway of contemporary India departs from the goal of inclusion in multiple ways ? access to energy, public services, architecture, land, infrastructure, commons, and cultural and civic spaces. It simultaneously interrogates both policy and theory with intermingling issues like informality, privatization, political economy and gender divide in the contemporary Indian city. The book argues for greater urban inclusion (social, economic and environmental) acknowledged in principle, in national and international urban policy frameworks.

Contents
Ideological and Policy Contestations in Contemporary Urban India
Trajectory of Spatial and Social Segregation in Urban India
Erosion of Public Space
Equitable Access and Political Economy of Basic Urban Services
Divided Activisms and Civic Spaces
Urbanscapes: The Traditional–Modern Divide and Its Contemporary Implications
Cities as Hubs of Regional and Global Climate Inequities
Conclusion and Way Forward

Readership: Researchers and students specializing in urban sociology, urban geography, urban planning, policy and governance or those investigating the urban situation in the South Asia and anyone who is interested in deeper understanding of the contemporary city from socio-economic equity and inclusion perspective.



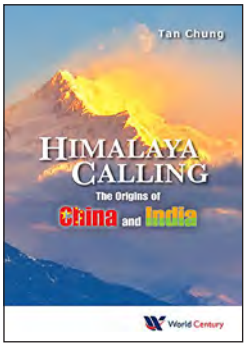
Modi and the World:
(Re) Constructing Indian Foreign Policy
By Sinderpal Singh
ISBN 9789813203853 • HB • 208pp
Original Price US$98
Indian Edition at Rs 895 • Year 2017

Contrary to prior expectations, Narendra Modi has expended a significant amount of time, energy and political capital in conducting India's engagement with the outside world since becoming Prime Minister in May 2014. In accordance with wider perceptions about Modi, there were expectations of significant, if not radical, change in Indian foreign policy under his charge. This sentiment led to a section of Indian strategists and foreign policy watchers conceiving the notion of a 'Modi Doctrine' in Indian foreign policy. This notion of foreign policy 'doctrines' is not new to the analysis of Indian foreign policy. Previous incarnations include the 'Indira Doctrine' of the 1970s, the 'Gujral Doctrine' for a brief period in the late 1990s and the 'Manmohan Doctrine' in the period before Modi was elected as prime minister.

This edited volume attempts to interrogate the extent to which Indian foreign policy, under Modi, has undergone significant change and the extent to which this manifests itself as a new doctrine in Indian foreign policy. The individual chapters cover key bilateral relationships (the United States, China, Australia and Pakistan) as well as broader regional relationships (South Asia and the Indian Ocean Region) and specific themes (such as economic diplomacy).

Contents:
Bilateral Engagements: Modi's China Policy — Change or Continuity? • Constructing an Indo-Pacific Partnership: Modi's Engagement with Australia • Modi and America: Great Expectations and Enduring Constraints • Embracing Japan: A Work in Progress • The Pakistan Challenge: Modi's 'China Card' **Themes/Geo-Political Regions:** Modi's 'Neighbourhood First' Initiative • Modi's Foreign Economic Policy • The Indian Ocean Policy of the Modi Government

Readership: Graduate students & researchers focusing on Indian foreign policy, geo-political ties and international relations.



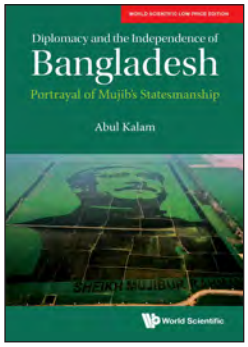
Himalaya Calling
The Origins of China and India
By Tan Chung
ISBN 9781938134593 • PB • 404pp
Original Price US$118
Indian Edition at Rs 695 • Year 2015

Himalaya Calling: The Origins of China and India will take the reader through a journey through the periods of time and places starting from the beginning of civilization from the Himalayas and extending into the Himalaya Sphere. The chapters in the book enable the reader to view the dynamics of China and India from the geo-civilizational paradigm of the Himalaya Sphere. Among the other new concepts introduced is a new understanding of the Buddhist tryst with China's developing process as a super-state and the interaction of the dynamics of 'wandering ascetics' from India and 'householder' in China. It conveys the message of two 'civilization-states' as akin to oases in the desert of modern 'nation-states' and advocates the Indian spiritual goal of 'Vasudhaiva kutumbakam' (the whole world is one single family) and the Chinese spiritual goal of 'tianxia datong 天下大同' (grand harmony all-under-Heaven).

The book is a must-read for all the leaders and policy makers of China and India. It is a culmination of decades of learning by the author who has lived in both the countries. The reader will begin to understand the shared origins of China and India and how the civilizations have been linked through the ages. The book is timely as it coincides with the commemoration of the diamond jubilee (50th anniversary) of the Panchsheel (Five Principles of Peaceful Coexistence) in 2014.

Contents
Foreword • Preface • Introduction • The 'Himalaya Sphere' Lives in the Spirit of China and India • Civilization Twins Grew Side by Side • Civilization and State in China-India Relations • 'Himalaya Sphere' into Universal Prosperity

Readership: Policy makers, historians, leaders in China & India & anyone interested in knowing more about China and India.

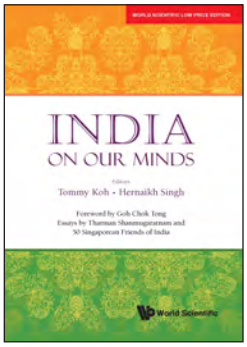


Diplomacy and the Independence of Bangladesh
Portrayal of Mujib's Statesmanship
By Abul Kalam
ISBN 9798886130041 • PB • 332pp
Original Price US$98
Indian Edition at Rs 1695 • Year 2024

Diplomacy and the Independence of Bangladesh is unique in itself, penned by a social scientist with extensive upbringing in studies on diplomacy, strategic fields, peace research, modern history, and international relations. A witness to the momentous events of Bangladesh's struggle for emancipation, as they unfolded during Pakistani rule in East Pakistan, the author also sets in conceptual designs for objective appraisals of the farsighted statesmanship of its founder, Sheikh Mujibur Rahman, with added reflections on shifting dimensions of diplomacy and their ramifications for mankind's waning civilizational journey.

Contents
- Preface
- About the Author
- List of Figures
- List of Tables
- Abbreviations
- Introduction
- Asymmetric Legacies of Diplomacy: Bangladesh Styles Its Brand
- Contextual Tales of Diplomacy: Mujib's Advent in Pakistani Politics
- Stage-Setting for Bangladesh Independence: Mujib as Architect
- Diplomacy of Mujibnagar Government: Independent Bangladesh
- Diplomacy and Deterrence: Role-Plays of the World Powers
- Conclusions
- Index

Readership: Researchers, undergraduate and postgraduate students interested in South Asian (Bangladeshi) history and politics.



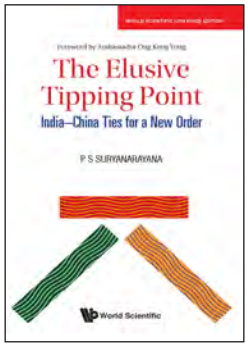
India On Our Minds
Edited by Tommy Koh & Hernaikh Singh
Foreword by Goh Chok Tong
Essays by Tharman Shanmugaratnam
and 50 Singaporean Friends of India
ISBN 9780000989932 • PB • 380pp
Original Price US$38
Indian Edition at Rs 1495 • Year 2021

Singapore and India established diplomatic relations in August 1965. However, their ties date as far back as the 10th century. The last half century has seen a blossoming of their relationship. The two countries' warm and substantive friendship is based upon history, economics, defense cooperation and a high degree of mutual trust. The relationship is quite unique because a significant portion of Singapore's population consists of ethnic Indians and an Indian language, Tamil, is one of Singapore's official languages.

The book brings together 52 of Singapore's thought leaders. They come from different sectors of the Singapore's society. Each of them has written an essay on India's past or present or future. Each essay is short, easy to read and full of insight and humour. One of the writers is Singapore's Senior Minister, Mr Tharman Shanmugaratnam, a person who is admired both in Singapore and in India. The book includes essays on Nalanda University, Amaravati, India-Singapore Comprehensive Economic Cooperation Agreement and the Regional Comprehensive Economic Partnership. On the lighter side, the book contains two charming essays by Ambassador Karen Tan and Eirliani Abdul Rahman on their time in India.
The book's foreword is written by Mr Goh Chok Tong, Singapore's second Prime Minister. It was Mr Goh who overcame prejudice and inertia and launched a new beginning in Singapore-India relations.

Contents
Foreword by Emeritus Senior Minister Goh Chok Tong
Preface
Thinking About The Past
Thinking About The Present
Thinking About The Future
About the Authors
Index

Readership: General.

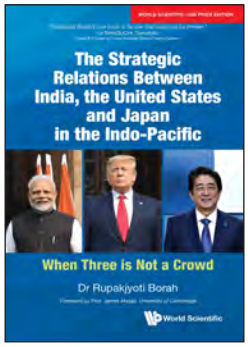


The Elusive Tipping Point
India-China Ties for a New Order
By P S Suryanarayana
ISBN 9780000989994 • PB • 276pp
Original Price US$88
Indian Edition at Rs 1650 • Year 2021

The Elusive Tipping Point: India-China Ties for a New Order is a timely foreign-policy-relevant book. This insightful book delves deep into the reasons for frequent diplomatic and strategic crises between Asia's two dynamic ancient civilisations with postmodern capabilities. Set in the context of seventieth anniversary of China-India diplomacy, the spotlight is turned on their complex search for neighbourliness and global good. Often a mirage, the positive tipping point in their state-to-state relations is traced through the past, the present and the potential future. A controversial missed opportunity in the past and a collective-win approach for the present are explored. For Beijing and Delhi, imaginative all-weather dialogue is the best option if they wish to stabilise their engagement for the uncertain future. Despite their major military crisis, PRC and India are expected to shape a realistic post-COVID world order.

Contents
A Glimpse of the Past
Re-Setting the Present
The Strategic Climate
Fragile Partnership Under the Sun
Linking of Tibet and Kashmir Issues
The Tense Doklam Face-off
Scanning Old Turf for New Games
A Collective-Win Approach
Diplomacy of Smart Power
Towards a Post-Modern Order

Readership: Scholars and students of international relations; international diplomats; Chinese, Indian, Pakistani diplomats and officials; general public.



The Strategic Relations Between India, the United States and Japan in the Indo-Pacific
When Three is Not a Crowd
By Rupakjyoti Borah
ISBN 9780000991034 • HB • 192pp
Original Price US$88
Indian Edition at Rs 1195 • Year 2022

This book analyses the growing relationships among India, the United States and Japan in the Indo-Pacific region, which can broadly be defined as the space encompassing both the Indian and the Pacific Oceans, though different nations have their competing visions of its extent. While on the one hand we have an ascendant China in all respects, at the same time, the US has continued interests in maintaining its leadership role in the region and beyond. Washington appears to employ a hub-and-spoke model where its most important ally in the region, Japan, fits in perfectly as a point from which to connect to the rest of the region. However, the critical role will be that of India, which is not an American ally but is key to many American plans in the region. Will India cooperate?

By examining the rapidly-evolving relations among the three countries, this book explores India's position in this region. Crucially, this book will analyse how the outbreak of the COVID-19 pandemic will upset power relations in the region. It is suitable reading for advanced undergraduate and graduate students, researchers, and practitioners in the fields of international relations, politics, security studies, political science, and geopolitics.

Contents
What's Bringing Japan and India Closer?
Where do India and the US Figure in Each Other's Foreign Policies?
The Personal Touch
External Factors: China and ASEAN
What Lies Ahead for Japan–India Relations?
The Ongoing Flux in the Indo-Pacific
The Future of India, US and Japan Ties
Index

Readership: Advanced undergraduate and graduate students, researchers, and practitioners in the fields of international relations, politics, security studies, political science, and geopolitics.

Trump's Populist America
By Steven Rosefielde
ISBN 9781944659493 • PB • 256pp
Original Price US$29.90
Indian Edition at Rs 795 • Year 2017

In *Trump's Populist America*, author Steven Rosefielde argues that the policies Trump fashions are not half measures, but stem from an understanding of his supporters and their desire for an elected government that is attuned to the common man's concerns. Through this lens, voting for Trump can be seen as an act of rebellion, in the spirit of Jeffersonian democracy, against the establishment. Despite assertions of xenophobia, bigotry, and racism, Rosefielde asserts that Trump supporters are nationalists in the Jeffersonian sense, who oppose being victimized by a special-interest government at home and who welcome amicable relations with neighbors across the globe.

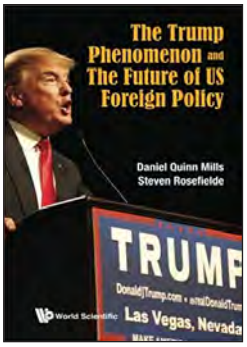
The book documents the grievances ordinary middle and working class American people harbour against the establishment's Global Nation policies at home and abroad, and shows how Trump intends to rectify matters with policies aimed at building a Jeffersonian populist America in a workman-like manner. If Trump succeeds, these policies will reverse the course of 21st century history for the middle and working class Americans. A battle is shaping up between populist advocates of open societies, and those who are sure "father" knows best.

Contents
Trump's Domestic Agenda: Establishment System • Trump's Populism • Immigration • Protectionism and National Sovereignty • Inclusive Economic Growth • Education • Environment • Social Welfare

Trump's Foreign Agenda: Populist Foreign Policy • Russia • China • Islam • Europe

Tomorrow: Turning Point • Prospects

Readership: Readers interested in the general election, domestic and foreign policies of the United States.



The Trump Phenomenon and the Future of US Foreign Policy
By Daniel Quinn Mills & Steven Rosefielde
ISBN 9789813200999 • PB • 212pp
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Donald Trump has called for a turnaround in the foreign policy of the United States (US). A key reason is that US foreign engagements have in recent decades proved of little benefit to the US middle and working classes.

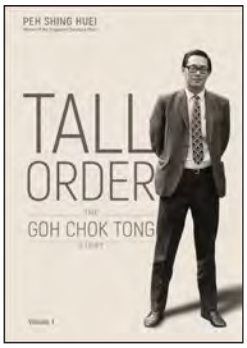
Trump's opponents have challenged him to prove that he can offer a better alternative to the foreign policy which has been pursued by the US since the Second World War.

This volume shows that a sane US foreign policy that adjusts US postwar trajectory can be accomplished if leaders have the courage and integrity to do so. The principles and many details of an alternative policy based on democratic nationalism are described in this book. Democratic nationalism presumes that the US is a large family in which the needs of members of the family have a certain legitimate priority over those of people abroad.

While Donald Trump has raised the level of discussion of these ideas in US public life, he does not have a monopoly on them. The shifts in the US foreign policy which are envisioned in this book can be made by any president and any political party. The shifts and the considerations which motivate them are deserving of careful attention by any US chief executive. This is not a Republican agenda, nor a Democratic one. We believe that it is a US agenda.

Contents
Executive Summary • Foreword • Preface • A Successful American Policy • Today's Dangers • The Decay of Post-World War II Cosmopolitanism • Bibliography • Index • About the Authors

Readership: Readers interested in the US General Election, its Foreign and Public Policies, and international relations.



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By Peh Shing Huei
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Goh Chok Tong was an improbable Prime Minister for an unlikely country. He had neither the connections nor the cunning to rise to the top, and was even once famously derided by his mentor Lee Kuan Yew for being "wooden" in his communication skills. Except for an imposing height most unusual in this part of the world, he was an ordinary man. He lost his father at a young age, lived in a two-bedroom public flat with his mother and four siblings and needed a government bursary to complete university.

Yet somehow he succeeded. Tall Order tells the extraordinary story of his life and career over half a century, revealing how Singapore's second Prime Minister rose through a combination of strength, wit and a political nous which many, including himself, did not know he had. In this first of two volumes, Goh navigated years of a challenging apprenticeship to Lee, scoring numerous policy successes but also suffering political blows and humiliation.

He was the man who first made Neptune Orient Lines, Singapore's national carrier, profitable, before entering politics. The stellar corporate stint was followed by his many novel policies and institutions that have since become household names in the country: Medisave, Total Defence, Residents' Committee and Nominated Member of Parliament. But the highlights were counterposed by setbacks, including overseeing the People's Action Party's first electoral defeat after independence at the Anson by-election.

In the hands of acclaimed author and journalist Peh Shing Huei, this authorised biography reveals the private deliberations and negotiations between Goh and Lee before the maiden leadership transfer of independent Singapore. Tall Order is the first biography of Goh. This riveting book offers rare insights into Singapore's biggest and most important political and economic stories.

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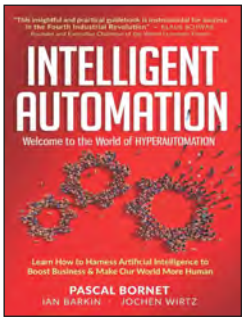

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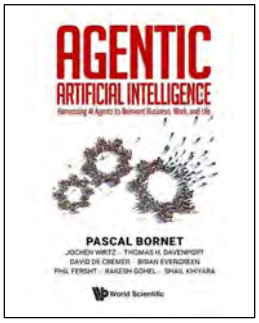

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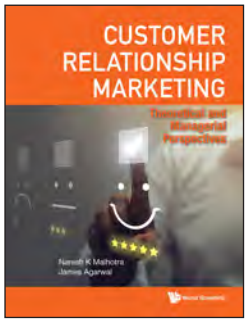

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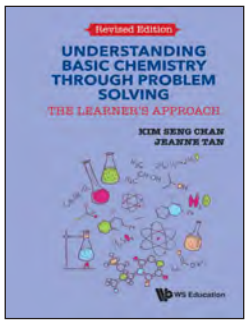

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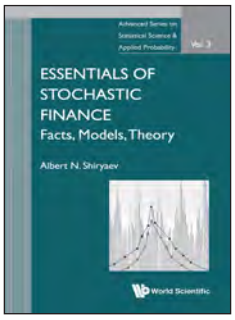

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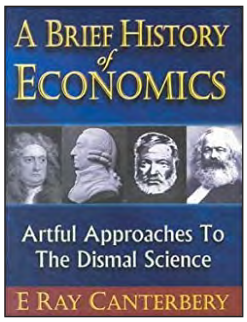

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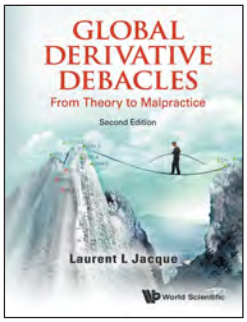

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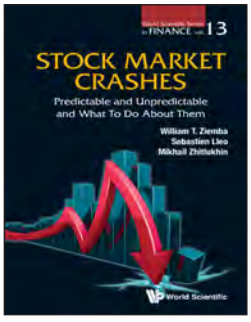

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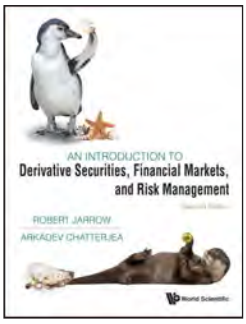

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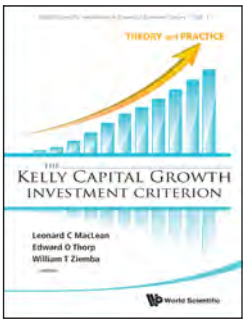

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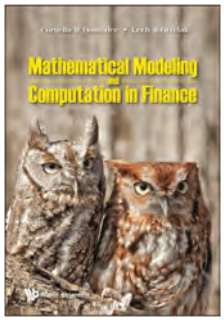

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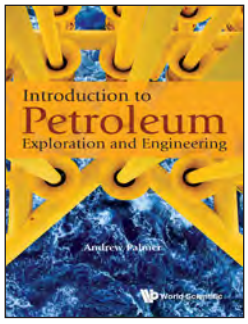

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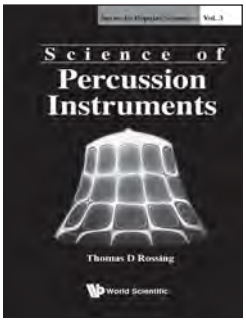

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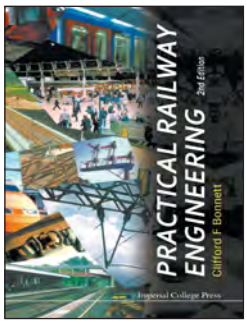

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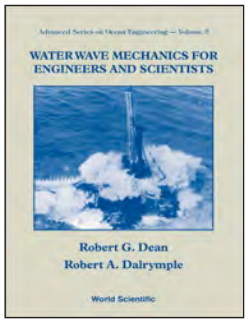

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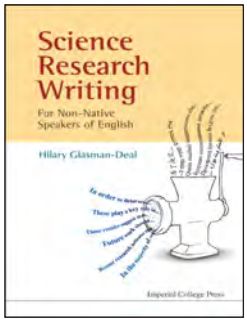

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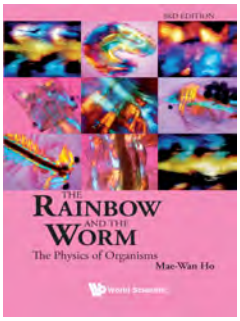

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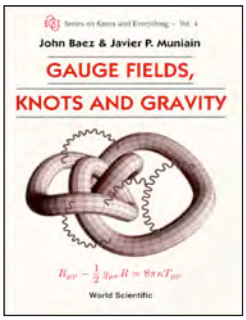

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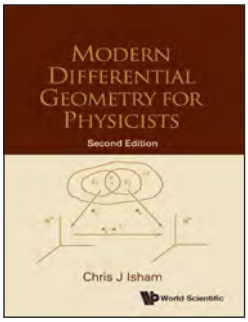

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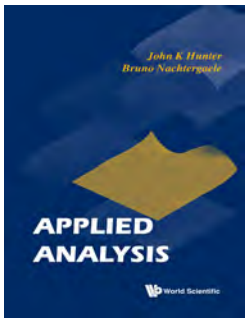

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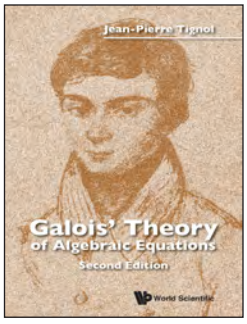

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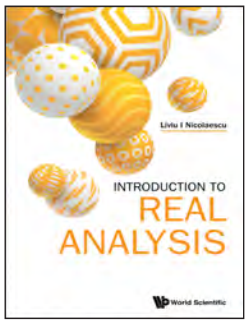

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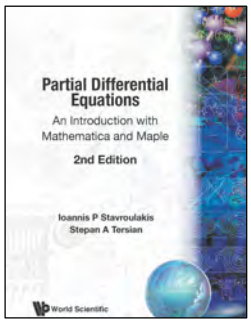

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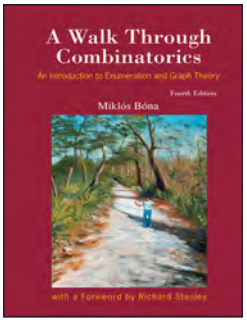

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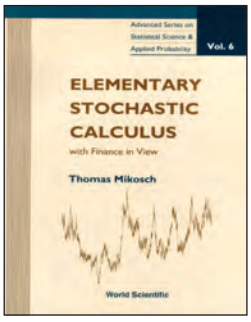

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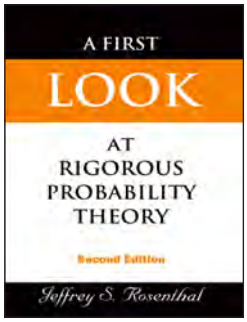

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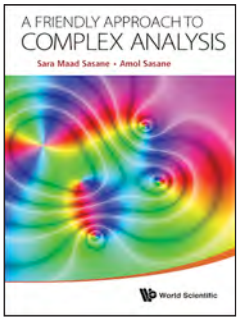

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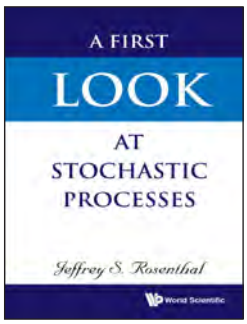

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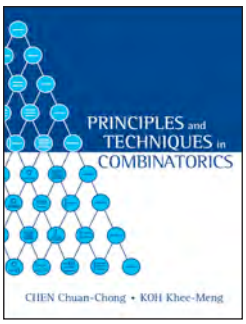

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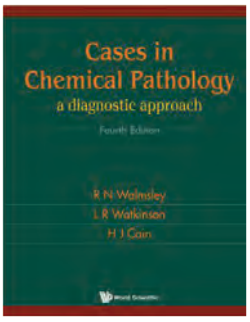

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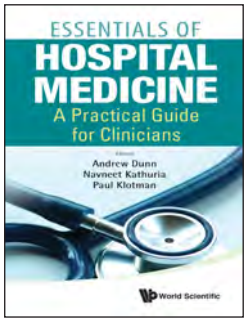

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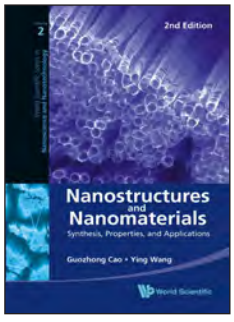

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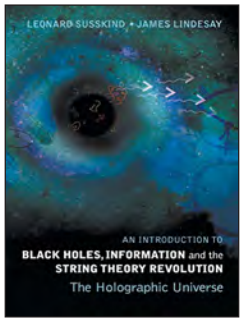

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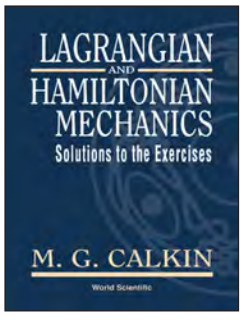

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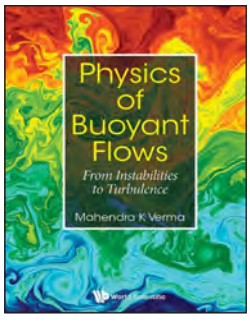

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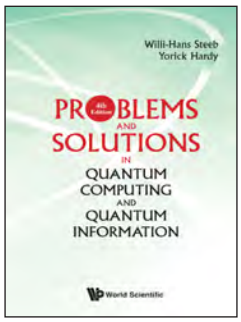

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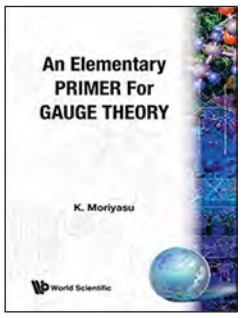

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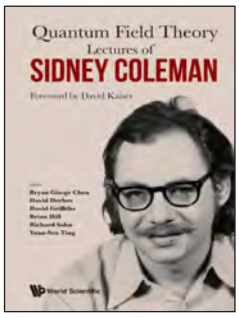

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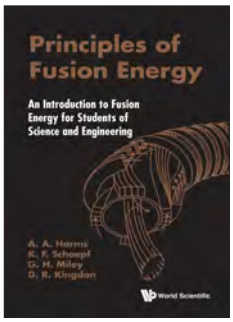

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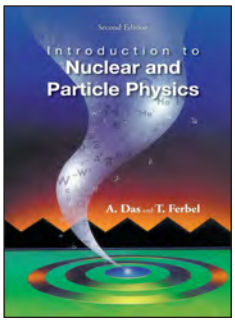

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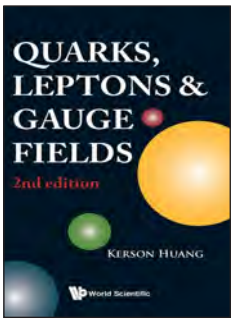

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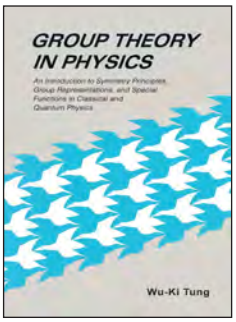

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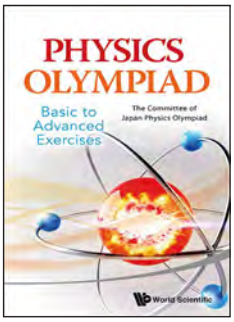

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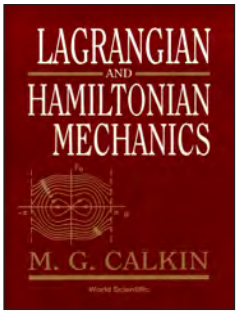

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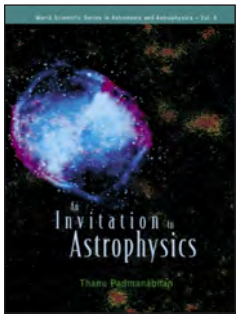

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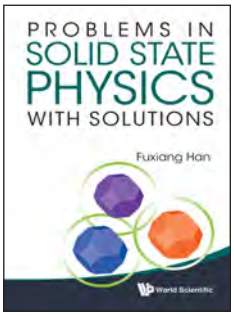

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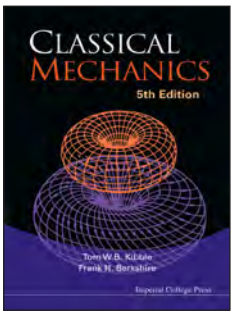

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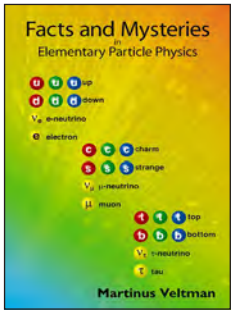

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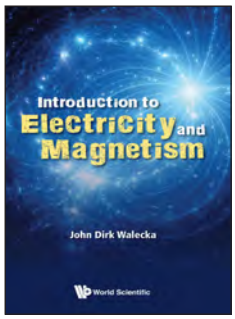

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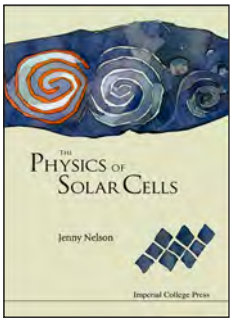

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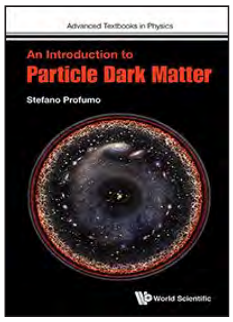

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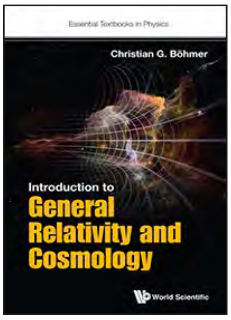

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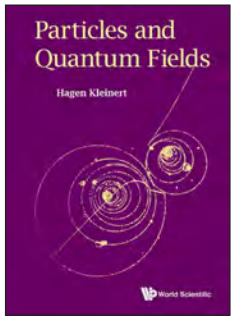

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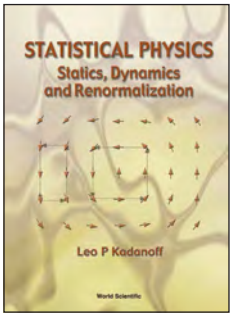

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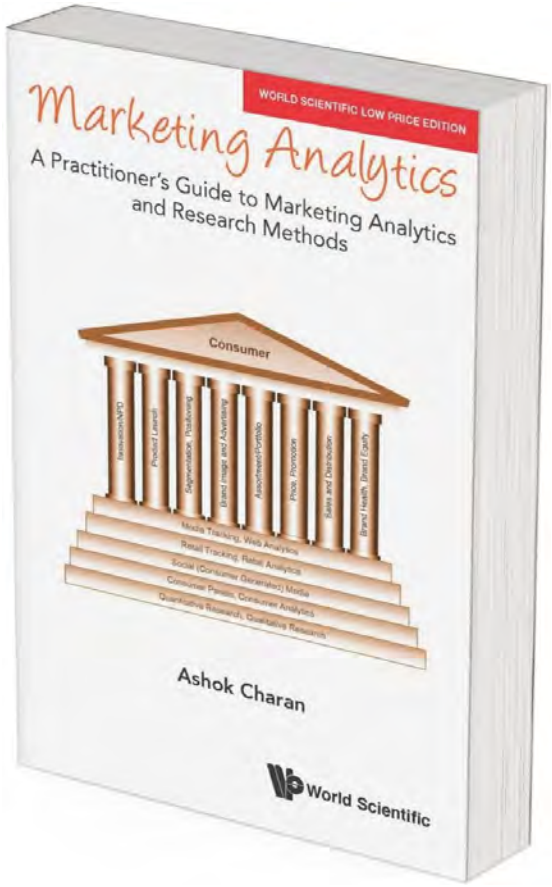

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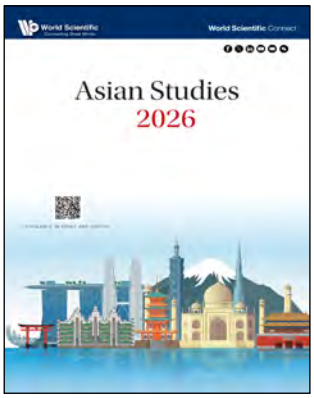

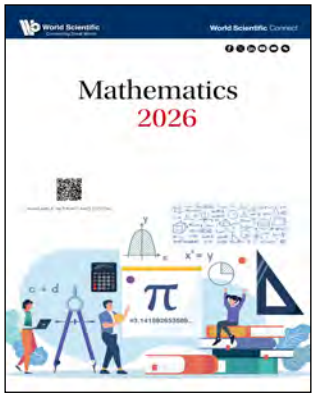

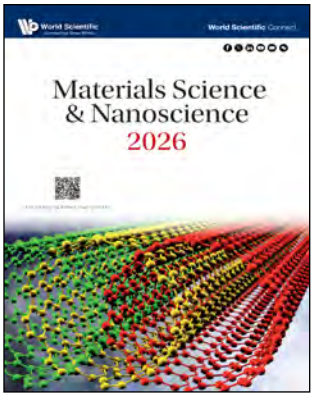

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