New and Notable

Shapes and Geometries: Metrics, Analysis, Differential Calculus, and Optimization, Second Edition
Michel C. Delfour and Jean-Paul Zolésio
This considerably enriched new edition provides a self-contained presentation of the mathematical foundations, constructions, and tools necessary for studying problems where the modeling, optimization, or control variable is the shape or the structure of a geometric object. This book presents the latest ground-breaking theoretical foundation to shape optimization in a form that can be used by the engineering and scientific communities.
2011 · xiv + 622 pages · Hardcover · ISBN 978-0-898719-36-9
List Price $199.00 · SIAM Member Price $139.20 · Order Code DC22

The Linear Sampling Method in Inverse Electromagnetic Scattering
Florin Cakoni, David Colton, and Peter Monk
The linear sampling method is the oldest and most developed of the qualitative methods in inverse scattering theory. It is based on solving a linear integral equation and then using the equation’s solution as an indicator function for the determination of the support of the scattering object. This book describes the linear sampling method for a variety of electromagnetic scattering problems.
2011 · x + 142 pages · Softcover · ISBN 978-0-898719-39-0
List Price $55.00 · SIAM/CBMS Member Price $38.50 · Order Code CB80

Mark S. Gockenbach
Partial differential equations are essential for modeling many physical phenomena. This undergraduate textbook introduces students to the topic with a unique approach that emphasizes the modern finite element method alongside the classical method of Fourier analysis. Additional features of this new edition include broader coverage of PDE methods and applications, with new chapters on the method of characteristics, Sturm–Liouville problems, and Green’s functions.
List Price $85.00 · SIAM Member Price $59.50 · Order Code OT122

SIAM Bestsellers

Learning MATLAB
Tobin A. Driscoll
This engaging book is a concise introduction to the essentials of the MATLAB® programming language and is ideal for readers seeking a focused and brief approach to the software.
List Price $28.00 · SIAM Member Price $19.60 · Code OT115

Discrete Inverse Problems: Insight and Algorithms
Per Christian Hansen
This book gives an introduction to the practical treatment of inverse problems by means of numerical methods, with a focus on basic mathematical and computational aspects.
2010 · xii + 213 pages · Softcover · ISBN 978-0-898716-96-2
List Price $65.00 · SIAM Member Price $45.50 · Code FA07

Insight Through Computing: A MATLAB Introduction to Computational Science and Engineering
Charles F. Van Loan and K.-Y. Daisy Fan
This introduction to computer-based problem-solving using the MATLAB® environment is highly recommended for students wishing to learn the concepts and develop the programming skills that are fundamental to computational science and engineering.
2010 · xviii + 434 pages · Softcover · ISBN 978-0-898716-91-7
List Price $59.00 · SIAM Member Price $41.30 · Code OT117

Numerical Linear Algebra and Applications, Second Edition
Biswa Nath Datta
This second edition of the author’s acclaimed textbook covers the major topics of computational linear algebra, including solution of a system of linear equations, least-squares solutions of linear systems, computation of eigenvalues, eigenvectors, and singular value problems.
List Price $79.00 · SIAM Member Price $55.30 · Code OT116

Mathematics of Social Choice: Voting, Compensation, and Division
Christoph Börgers
This fun and accessible book that takes an entertaining look at the choices made by groups of people with different preferences, needs, and interests.
2010 · xii + 245 pages · Softcover · ISBN 978-0-898716-95-5
List Price $35.00 · SIAM Member Price $24.50 · Code OT119

TO ORDER, SHOP ONLINE AT www.siam.org/catalog

Use your credit card (AMEX, MasterCard, and VISA) by phone: +1-800-447-SIAM (toll free in US) or +1-215-382-9800 (worldwide), fax: +1-215-386-7999, or e-mail: siambooks@siam.org. Or send check or money order in US dollars to: SIAM, Dept. BKIT11, 3600 Market Street, 6th Floor, Philadelphia, PA 19104-2688 USA.

Members and customers outside North America can also order SIAM books through SIAM’s distributor, Cambridge University Press, at www.cambridge.org/siam.