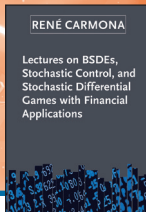
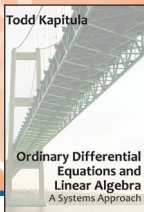
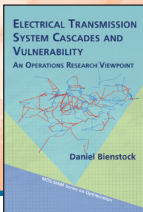


New Applied Math Titles from SIAM



Electrical Transmission System Cascades and Vulnerability: An Operations Research Viewpoint

Daniel Bienstock

MOS-SIAM Series on Optimization 22

The power grid can be considered one of twentieth-century engineering's greatest achievements, and as grids and populations grow, robustness is a factor that planners must take into account. This book sheds light on this complex problem by introducing the engineering details of power grid operations from the basic to the detailed; describing how to use optimization and stochastic modeling, with special focus on the modeling of cascading failures and robustness.

2015 • viii + 294 pages • Softcover • 978-1-611974-15-7

List \$93.00 • MOS/SIAM Member \$65.10 • MO22

Adaptive Treatment Strategies in Practice: Planning Trials and Analyzing Data for Personalized Medicine

Edited by Michael R. Kosorok and Erica E. M. Moodie

ASA-SIAM Series on Statistics and Applied Probability 21

In the statistical literature, sequential decision making is known as an adaptive treatment strategy (ATS) or a dynamic treatment regime (DTR). The field of DTRs emerges at the interface of statistics, machine learning, and biomedical science to provide a data-driven framework for precision medicine. The authors provide a learning-by-seeing approach to the development of ATs, aimed at a broad audience of health researchers.

2016 • xvi + 348 pages • Softcover • 978-1-611974-17-1

List \$74.00 • ASA/SIAM Member \$51.80 • SA21

Stochastic Systems: Estimation, Identification, and Adaptive Control

P. R. Kumar and Pravin Varaiya

Classics in Applied Mathematics 75

Since its origins in the 1940s, the subject of decision making under uncertainty has grown into a diversified area with applications in several branches of engineering and in those areas of the social sciences concerned with policy analysis and prescription. This book provides succinct and rigorous treatment of the foundations of stochastic control and a unified approach to filtering, estimation, prediction, and stochastic and adaptive control.

2016 • xviii + 358 pages • Softcover 978-1-611974-25-6

List \$74.00 • SIAM Member \$51.80 • CL75

Ordinary Differential Equations and Linear Algebra: A Systems Approach

Todd Kapitula

Ordinary differential equations (ODEs) and linear algebra are foundational postcalculus mathematics courses in the sciences. The goal of this text is to help students master both subject areas in a one-semester course.

Linear algebra is developed first, with an eye toward solving linear systems of ODEs.

2015 • xii + 300 pages • Softcover

978-1-611974-08-9 • List \$79.00

SIAM Member \$55.30 • OT145

Lectures on BSDEs, Stochastic Control, and Stochastic Differential Games with Financial Applications

René Carmona

Financial Mathematics 01

The goal of this textbook is to introduce students to the stochastic analysis tools which play an increasing role in the probabilistic approach to optimization problems, including stochastic control and stochastic differential games. The book will be helpful to students who are interested in stochastic differential equations (forward, backward, forward-backward), the probabilistic approach to stochastic control, and mean field games and the control of McKean–Vlasov dynamics.

2016 • x + 265 pages • Softcover

978-1-611974-23-2 • List \$84.00

SIAM Member \$58.80 • FM01

All prices are in US dollars.

To ORDER Please mention keycode "BKNO16" when you order.

Order online: www.siam.org/catalog • Use your credit card (AMEX, MasterCard, or VISA):

Call SIAM Customer Service at +1-215-382-9800 worldwide or toll free at 800-447-SIAM in USA and Canada; Fax: +1-215-386-7999 • Send check or money order to: SIAM, Dept. BKNO16, 3600 Market Street, 6th Floor, Philadelphia, PA 19104-2688.

SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS **siam**