DESCRIPTION

An up-to-date and comprehensive treatment of the fundamentals of scheduling theory, including recent advances and state-of-the-art topics.

Principles of Sequencing and Scheduling strikes a unique balance between theory and practice, providing an accessible introduction to the concepts, methods, and results of scheduling theory and its core topics. With real-world examples and up-to-date modeling techniques, the book equips readers with the basic knowledge needed for understanding scheduling theory and delving into its applications. The authors begin with an introduction and overview of sequencing and scheduling, including single-machine sequencing, optimization and heuristic solution methods, and models with earliness and tardiness penalties. The most current material on stochastic scheduling, including correct scheduling of safety time and the use of simulation for optimization, is then presented and integrated with deterministic models. Additional topical coverage includes:

- Extensions of the basic model
  - Parallel-machine models
  - Flow shop scheduling
  - Scheduling groups of jobs
  - The job shop problem
Simulation models for the dynamic job shop

Network methods for project scheduling

Resource-constrained project scheduling

Stochastic and safe scheduling

Extensive end-of-chapter exercises are provided, some of which are spreadsheet-oriented, and link scheduling theory to the most popular analytic platform among today's students and practitioners—the Microsoft Office Excel® spreadsheet. Extensive references direct readers to additional literature, and the book's related Web site houses material that reinforces the book's concepts, including research notes, data sets, and examples from the text.

Principles of Sequencing and Scheduling is an excellent book for courses on sequencing and scheduling at the upper-undergraduate and graduate levels. It is also a valuable reference for researchers and practitioners in the fields of statistics, computer science, operations research, and engineering.

ABOUT THE AUTHOR

Kenneth R. Baker, PhD, is Nathaniel Leverone Professor of Management at Dartmouth College. A Fellow of the Institute for Operations Research and the Management Sciences (INFORMS), Dr. Baker has published extensively in his areas of research interest, which include mathematical modeling, spreadsheet engineering, and scheduling. He is the coauthor of Management Science: The Art of Modeling with Spreadsheets, Second Edition, also published by Wiley. Dan Trietsch, PhD, is Professor of Industrial Engineering at the American University of Armenia. He has authored over thirty journal articles on topics such as network design, statistical quality control, and various aspects of scheduling.
NEW TO EDITION

• Updated coverage of research results that have appeared in the last few years

• Integrated coverage of stochastic scheduling and safe scheduling

• Stochastic solutions using sample-based methods and Risk Solver

• Project scheduling analysis

FEATURES

• Extensive sets of exercises are provided at the end of every chapter. Some of the exercises are spreadsheet-oriented and link scheduling theory to the most popular analytic platform among today's students and practitioners - the Microsoft Office Excel® spreadsheet.

• In addition to thorough coverage of deterministic models, recent developments and approaches of stochastic models are also provided

• The book minimizes any discussion of connections between the presented models, which allows for structural independence for classroom use
A Research Supplement is also available via the book's FTP site. This supplement includes research notes and additional material that expands on the coverage in the book and represents an intellectual bridge to the research literature on sequencing and scheduling.

For additional product details, please visit https://www.wiley.com/en-us