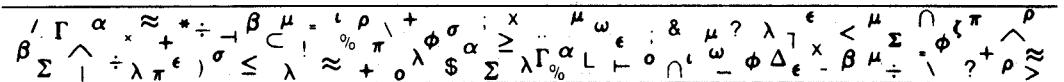# Book Reviews

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The range of books reviewed is wide, covering theory and applications in operations research, statistics, econometrics, mathematics, computers, and information systems (no software is reviewed). In addition, we include books in other fields that emphasize technical applications. Publishers who wish to have their books and proceedings reviewed should send them to Professor Benjamin Lev, School of Management, The University of Michigan-Dearborn, 4901 Evergreen Road, Dearborn, Michigan 48128-1491. We list the books and proceedings received; not all books received can be reviewed because space and time are limited. Those who would like to review books are urged to send me their names, addresses, and specific areas of expertise. We commission all reviews and do not accept unsolicited book reviews. Readers are encouraged to suggest books that might be reviewed or to ask publishers to send me copies of such books.

MABERT, VINCENT A. AND JACOBS, F. ROBERT, eds. 1991, *Integrated Production Systems: Design, Planning, Control, and Scheduling,* fourth edition, Industrial Engineering and Management Press, Norcross, Georgia, 277 pp., $39.95.

This book is actually the fourth edition of *Production Planning, Scheduling and Inventory Control,* but this edition has been retitled, and it concentrates on "how products, process, and information decisions interplay and affect overall performance."

The book contains 22 previously published articles—mostly from *CIM Review* and *Industrial Engineering,* but also a few from *Interfaces, The International Journal of Production Research, Inventory Management Journal,* and *The Journal of Accountancy.* Most were published between 1987 and 1990. The articles are not just reproduced, but have been typeset in a standardized way.

The book consists of five sections: (1) Introduction, (2) System design and cellular

concepts, (3) Justifying integrated systems, (4) Planning integrated systems, and (5) Materials scheduling and JIT concepts. Each section contains three to seven articles, 22 altogether. The editors have written introductions to each of the sections, in which they motivate the sections and comment on the articles. The articles are well integrated and relevant to each section's theme.

The readings in the book cover planning and control issues for both manual and automated integrated manufacturing systems. A book published by the Institute of Industrial Engineers naturally concentrates on the more technical aspects of designing and managing production systems. But the book has been edited for a broad audience, and it requires no special background in industrial engineering. The articles are easy to read and nonmathematical. About half of the articles are case studies describing what actual companies have done. These cases represent American practice. The rest of the articles are a mixture of surveys and introductions to such topics as cost justification of CIM and integration of CAD and MRP II.

The book focuses on "world-class manufacturing capability," which is taken to imply four goals: producing high quality products, maintaining dependable delivery, improving productivity to achieve cost competitiveness, and providing a flexible manufacturing structure. With this collection of articles, the editors attempt to show how these goals can be accomplished with the integration of total quality control, just-in-time production, cellular manufacturing, computer integrated manufacturing, and materials requirement planning.

The book would be appropriate as supplemental reading to a basic text covering the same topics. I can recommend it not only to students in industrial engineering but also to students in business and MS/OR who are taking a course oriented towards design and management of production systems. Further, it should also be useful for consultants and practitioners in the industrial engineering area.
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EVANS, JAMES R. AND MINIEKA, EDWARD 1992, *Optimization Algorithms for Networks and Graphs*, Second Edition, Marcel Dekker, Inc., New York, 470 pp., $59.95.

This second edition is a revision and expansion of the 1978 book by Minieka and includes new algorithms and material from the last 15 years. In addition, NETSOLVE, an interactive software package for network flow problems, has been included and fully integrated into the text.

The authors' stated purpose is to provide a ". . . a text about . . . optimization algorithms for problems that can be formulated in a network or graph setting." This is indeed an ambitious project but it is carried out successfully.

Evans and Minieka present a variety of network-flow problems, ranging from shortest-path problems to traveling-salesman problems to location problems. They also discuss min-cost-flow problems, max-flow problems, and assignment problems in detail.

Each chapter is devoted to a different problem. In the introductory section, the