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国外大学优秀教材 — 工业工程系列 (影印版)

Lucy C. Morse Daniel L. Babcock

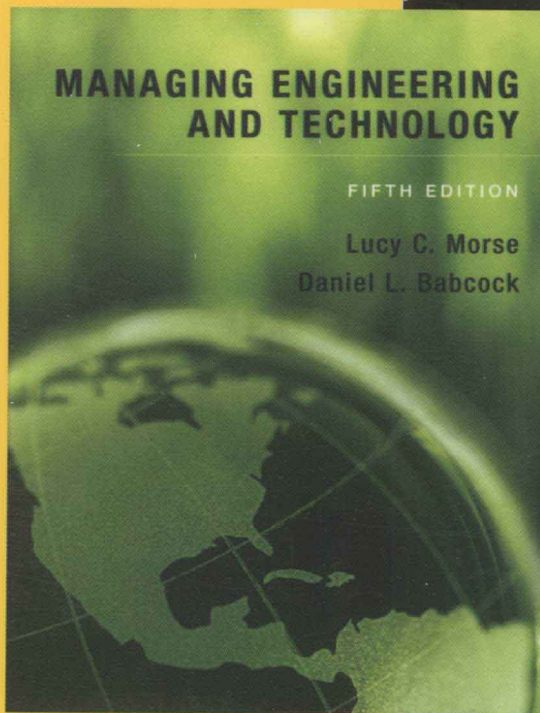
管理工程与技术

(第5版)


MANAGING ENGINEERING
AND TECHNOLOGY

FIFTH EDITION

Lucy C. Morse
Daniel L. Babcock

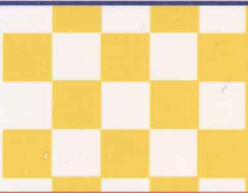


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本书是公认的最权威的向工程师们教授管理原理的教科书之一。全书共18章。第1章讨论了工程、管理的艺术与科学以及这两者的整合。第2章从工程师的角度出发,介绍了管理的发展历史。第3~8章讨论了计划、组织、激励和控制等管理职能。与传统的管理学教科书不同,本书的介绍更精简,更强调技术方面的管理。第9~13章介绍了如何将这些管理学的基础知识应用到工程师的工作环境中去,讨论了研究、设计、生产以及技术销售和服务。第14和15章讨论如何将管理原理应用到项目管理这种工程实践的普通形式上去。第16~18章讨论了工程师的职业生涯发展。

本书可作为工程管理、工业工程专业的本科生或研究生的管理学教材。对于考虑转向管理岗位的工程技术人员,本书也会提供有价值的参考。



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Managing Engineering and Technology

Fifth Edition

管理工程与技术 （第5版）

Lucy C. Morse

University of Central Florida

Daniel L. Babcock

Missouri University of Science and Technology

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北 京

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Foreword

This textbook series is published at a very opportunity time when the discipline of industrial engineering is experiencing a phenomenal growth in China academia and with its increased interests in the utilization of the concepts, methods and tools of industrial engineering in the workplace. Effective utilization of these industrial engineering approaches in the workplace should result in increased productivity, quality of work, satisfaction and profitability to the cooperation.

The books in this series should be most suitable to junior and senior undergraduate students and first year graduate students, and to those in industry who need to solve problems on the design, operation and management of industrial systems.

Gavriel Salvendy

Department of Industrial Engineering, Tsinghua University

School of Industrial Engineering, Purdue University

April, 2002

序 言

本教材系列的出版正值中国学术界工业工程学科经历巨大发展，实际工作中对工业工程的概念、方法和工具的使用兴趣日渐浓厚之时。在实际工作中有效地应用工业工程的手段将无疑会提高生产率、工作质量、合作的满意度和效果。

该系列中的书籍对工业工程的本科生、研究生和工业界中需要解决工程系统设计、运作和管理诸方面问题的人士最为适用。

加弗瑞尔·沙尔文迪
清华大学工业工程系
普渡大学工业工程学院（美国）
2002 年 4 月

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Preface

Engineers have always played an important role in the growth and development of countries. As our world becomes “flatter” and our nations’ economies become more globally dependent, it is even more critical that the engineer be able to successfully address the technological, social, and environmental challenges and opportunities of the present and the future.

The textbook is intended to be an overview of the field of engineering management; yet, realistically we recognize that the faculty adopting this text will want to tailor the content to their specific needs. The basic outline of the text remains unchanged. The text examines the four main management functions followed by the functions of technology management. As we worked with various reviewers and faculty on this edition it became apparent that today there are several primary concerns for the engineering manager. These include engineering ethics, leadership, and globalization.

The fifth edition of the text addresses these concerns and has incorporated lessons learned from earlier editions, student and faculty comments, and our own personal teaching experience. Some of the new changes include the following:

- Updated materials on the global perspectives of engineering and management
- Presents the National Academy of Engineering Grand Challenges for Engineers
- Increased emphasis on engineering ethics
- New and revised problems and discussion items
- Updated terminology and descriptions
- Expanded website includes PowerPoint slides for each chapter, supplementary reading material, test banks and answers, and additional project ideas <http://www.pearsonhighered.com/morse>

The authors of this textbook will remain alert to changing customers, products, processes, technologies, and opportunities for engineering management and management of technology students. Again, suggestions for the improvement of the text are always welcome.

We hope that the changes made in this edition of *Managing Engineering and Technology* will be helpful to instructors and students alike. We wish you much success on your educational and professional journey.

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Acknowledgments

Before I recognize several important contributors to this textbook I would like to say that I am honored to have the opportunity to work with Dan Babcock (the original author) and his continuing contributions. Also it is important to thank and recognize the many teaching and working professionals who provided insight and information for this book and its four revisions including the contributions of Drs. Donald Myers, Henry Metzner, and Jean Babcock in providing portions of Chapters 9, 13, and 12. Further, students from my graduate and undergraduate engineering management classes provided a learner perspective that we hope will be found useful.

Also we are very appreciative of the assistance and sidebars contributed by John Schneider, President of GlobalSpec; Thomas A. Crosby, President/CEO of Pal's Sudden Service; Professor Charles W. Keller, University of Kansas; Brian Goldiez, Deputy Director of the Institute of Simulation and Training, University of Central Florida (UCF); Lee Lowery, Jr, Texas A&M University; Nabeel Yousef, UCF; industrial members of College–Industry Partnerships Division of American Society for Engineering Education; reviewers—Thomas F. Siems, Southern Methodist University; Gus H. Elias, California State University Northridge; Stanley F. Bullington, Mississippi State University; Shih-Ming Lee, Florida International University; and the many others that have reviewed and offered their support.

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