#### 图书基本信息

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#### 前言

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。

#### 内容概要

本书系统地介绍了操作与过程分析、问题解决方法、决策方法、改善方案实施、动作与时间研究、作 业取样及其标准化、薪酬制定、培训等实用性非常强的工业工程与现场改善的理论与方法。 本书从合理的工程方法、符合实际的作业标准以及公正的薪金报酬等3个方面为制造业和服务业 等的管理提供了最基本的理论和方法,并辅以应用案例、习题和在线支持,是一本值得推荐的教材。 全书实用性强,语言流畅,通俗易懂,适合工程类学科的本科生、研究生以及制造业和服务业的工程 技术人员与管理者学习和借鉴。

#### 书籍目录

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Successful methodschanges implemented included water jet cutters in place of manual trimming of thecarpets with knives, a decrease in the number of times the carpets were handledmanually with excessive pinch grips, and changes in gluing and sewing operations. In addition, the working conditions through the employees perspective were ana-lyzed with a health and safety survey, and the workers were provided with variouslevels of ergonomics training. As a result, the number of OSHA-recordable mus-culoskeletal injuries dropped from a high of 55 in the first year, to 35 in the secondyear, to 17 in the third year, and to an eventual low of 8 in the fifth year. However, more important, the ergonomics program was considered so successful by OSHAthat the abatement program oversight was terminated after the second year !

SUMMARY Increased output and improved quality are the primary outcomes of methods andwork design changes, but methods changes also distribute the benefits of im-proved production to all workers and help develop better working conditions and a safer working environment, so the worker can do more work at the plant, do agood job, and still have enough energy to enjoy life. The examples of effective implementation of methods changes clearly demonstrate the need to follow anorderly approach, as presented in Figure 2.1. The methods engineer should notethat it is not sufficient to use sophisticated mathematical algorithms or the latestsoftware tools to develop the ideal method. It is necessary to sell the plan both tomanagement and to the workers themselves. Additional interpersonal techniques and strategies for dealing with people to better sell the method are presented in

Chapter 18. QUESTIONS 1. Compare and contrast a decision table with value engineering. 2. How does one define the benefits especially related to health and safety in cost-benefit analysis ?

3. What are the principal concerns of management with regard to a new method that isrelatively costly to install ?

4. What is meant by the discounted cash flow method ?

5. What is meant by the payback method ?

How is it related to the return on investment method ?

6. What is the relationship between return on capital investment and the riskassociated with the anticipated sales of the product for which a new method willbe used ?

7. What two specific subjects should be emphasized in writing the job description?

8. Is time a common denominator of labor cost?

Why or why not?

9. What is a job evaluation ?

10. Which four methods of job evaluation are being practiced in this country today?

11. Explain in detail how a point plan works.

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