

<<机械设计过程>>

图书基本信息

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### 前言

机械工业出版社在2006年出版了美国大卫G·乌尔曼 (David G.Ullman) 所著《机械设计过程》第3版的中文翻译本, 几年以后我们又见到了该书英文原版的第4版, 这一版在保留原有特色的基础上有了较大的改进, 反映了机械设计近年来的一些重要的发展和研究成果。

本书明确提出了“产品设计”的设计原理, 是针对产品设计的设计思想、理论、技术和方法的总结, 而对于那些针对“机构”和“零件结构”的设计手段, 只作为基础知识介绍。

同时, 本书全面、具体地给出了“设计学”的基本内容, 详细地引出了设计的典型步骤, 每一个步骤的任务和目标, 应考虑的主要问题和常用的解决方法, 对产品设计具有很好的指导作用。

本书的主要特点是: 1. 针对各章节知识点给出了计算机设计用的表格, 供设计者参考。

2. 给出了更多的设计实例和照片。

3. 各章前面给出了“要点问题” (Keyquestions), 使读者阅读时目标更加明确。

4. 更新了参考资料, 使本书更加实用。

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### 内容概要

《机械设计过程（英文版·原书第4版）》明确提出了“产品设计”的设计技术，是针对产品设计的设计思想，理论、技术和方法，而对于那些针对“机构”和“零件结构”的设计技术，只作为基础知识介绍。

《机械设计过程（英文版原书第4版）》全面、具体地给出了“设计学”的基本内容，详细地引出了设计的典型步骤，每一个步骤的任务、目标，应考虑的主要问题和常用的解决方法，对产品设计具有很好的指导作用。

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## 章节摘录

插图：Unfortunately, often what is manufactured by a company using the over-the-wall process is not what the customer had in mind. This is because of the many weaknesses in this product development process. First, marketing may not be able to communicate to engineering a clear picture of what the customers want. Since the design engineers have no contact with the customers and limited communication with marketing, there is much room for poor understanding of the design problem. Second, design engineers do not know as much about the manufacturing processes as manufacturing specialists, and therefore some parts may not be able to be manufactured as drawn or manufactured on existing equipment. Further, manufacturing experts may know less-expensive methods to produce the product. Thus, this single-direction over-the-wall approach is inefficient and costly and may result in poor-quality products. Although many companies still use this method, most are realizing its weaknesses and are moving away from its use. In the late 1970s and early 1980s, the concept of simultaneous engineering began to break down the walls. This philosophy emphasized the simultaneous development of the manufacturing process with the evolution of the product. Simultaneous engineering was accomplished by assigning manufacturing representatives to be members of design teams so that they could interact with the design engineers throughout the design process. The goal was the simultaneous development of the product and the manufacturing process.

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