

<<制造工程与技术>>

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内容概要

《制造工程与技术（第4版改编版）》是在Serope Kalpakian等主编的Manufacturing Engineering and Technology（Fourth Edition）教材的基础上改编而成的，改编后的教材既保留了国外原版教材的风格，又适合国内教学的需要，是优秀的“双语”教学教材。

《制造工程与技术（第4版改编版）》除绪论外共三篇20章，第一篇为工程材料基础，主要介绍的金属材料、非金属材料、复合材料的特性、选用方法及在工程扣的实际应用，并对纳米材料及高分子材料做了介绍。

第二篇为材料成形技术，本篇不仅介绍了传统的铸锻工艺、精密锻造以及粉末冶金、塑料和复合材料的成形技术，还介绍了快速原型和快速模具技术；第三篇为机械加工技术，除了对传统的各种机加工工艺进行了介绍外，还介绍了高速切削加工、现代加工中心、先进刀具和磨削材料、非传统加工技术（化学、电火花、超声、等离子、激光加工等）以及正在逐渐成为现代制造领域的一个重要发展方向的纳米制造和微细加工等先进制造技术。

为了便于读者阅读，本教材在每一章后面都附有中文注释和主要的专业术语，而且在书末还附有按字母顺序排列的中英文对照词汇表。

《制造工程与技术（第4版改编版）》可作为机械设计制造及其自动化专业以及机电类其他相关专业的本科生或研究生的英文教材，也可供相关的工程技术人员参考。

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章节摘录

Manufacturing , in its broadest sense , is the process of converting raw materials into products . It encompasses(1)the design of the product , (2)the selection of raw materials , and(3)thesequence of processes through which the product will be manufactured . Manufacturing is the backbone of any industrialized nation . Its importance is emphasized by thefact that , as an economic activity , it comprises approximately 20% to 30 % of the value of all goods and services produced . A country" S level of manufacturing activity is directly related to its economichealth . Generally , the higher the level of manufacturing activity in a country , the higher thestandard of living of its people . Manufacturing also involves activities in which the manufactured product is itself used to makeother products . Examples of these products are large presses to shape sheet metal for car bodies , machinery to make bolts and nuts , and sewing machines for making clothing . An equally important aspect of manufacturing activities is the servicing and maintenance of this machinery during its useful life. PAGE2 The design process for a product first requires a clear understanding of the functions and theperformance expected of that product . The product may be new , or it may be a revised version ofan existing product . We all have observed , for example , how the design and style of radios , toasters , watches , automobiles , and washing machines have changed . The market for a product and its anticipated uses must be defined clearly , with the assistance ofsales personnel , market analysts , and others in the organization . Product design is a critical activitybecause it has been estimated that 70% to 80% of the cost of product development and manufaetureis determined by the decisions made in the initial design stages .

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编辑推荐

本书是在我国高校机械课程开展"双语"教学的情况下,由国外原版教材改编而来的,该教材进一步加强了机械类课程与国外高校的交流,引进了国外先进的制造技术与教学思想,尤其是对近年来出现的高速切削、快速原型制造等新技术也用了一定篇幅的介绍,是一本非常难得的优秀高校双语教材。

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