

<<机电专业英语>>

图书基本信息

书名：<<机电专业英语>>

13位ISBN编号：9787564028169

10位ISBN编号：7564028165

出版时间：2010-2

出版时间：北京理工大学出版社

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页数：214

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前言

机电工程专业英语是创新型机械电子工程本科教材编委会推出的机电类系列教材之一。机电工程是一门古老而又前沿的学科，其涉及面非常广泛。内容不仅包括传统的机械设计与制造、力学、材料、机械零件、液压技术、模塑技术，以及先进的机电一体化、数控、机器人、CAD / CAM技术，还包括最前沿机电产业的太阳能和风能技术。本教材紧随机电工程发展的步伐开展编写，其主要特色有：1.以提高学生阅读理解机械工程科技英语文献的能力为目标。教材全部选自欧美原著，行文流畅，内容以基本原理和实际应用为主，去除了比较难以掌握的专业理论知识。每篇课文的难句都有注释，学生易于理解。此外，每篇课文都有一篇内容相近的补充读物，供学生拓展知识，更进一步提高阅读水平。2.本书分为3部分，即基础知识、高新技术、前沿应用。内容由浅入深、循序渐进，可满足不同专业方向和不同年级的教学要求。3.本书在强调基础专业知识的前提下，尤为注重内容的实用性、先进性和前瞻性。通过本书的学习既可以掌握大量的实用专业单词，还可以掌握相关的新技术、新知识。4.本教材所有课文都附有参考译文，目的在于方便学生自学。

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内容概要

本书由机械工程专业基础知识篇、高新技术篇和前沿知识拓展篇3部分组成。

以培养学生阅读和理解机电工程专业英语能力为目标，内容包括机械工程概论、力学、机械设计、液压技术、机械制造、机电一体化技术、数控技术、新能源等。

全书共24篇课文，全部课文均有注释、参考译文和作业。

本书可以作为机械设计及其自动化、机械电子工程、机电一体化等专业的专业英语教材，也可以供相关专业的人员参考使用。

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章节摘录

Mechanical Engineering is an engineering discipline that involves the application of principles of physics and chemistry for analysis, design, manufacturing, and maintenance of various systems. Mechanical Engineering is one of the oldest and broadest engineering disciplines. It requires a solid understanding of core concepts including mechanics, kinematics, thermodynamics, fluid mechanics, and energy. Mechanical engineers use the core principles as well as other knowledge in the field to design and analyze manufacturing plants, industrial equipment and machinery, heating and cooling systems, motor vehicles, aircraft, watercraft, robots, medical devices and more.

History and Development Applications of mechanical engineering are found in the records of many ancient and medieval societies throughout the globe. In ancient Greece, the works of Archimedes (287 BC — 212 BC) and Heron of Alexandria (10 — 70 AD) deeply influenced mechanics in the Western tradition. In China, Zhang Heng (78 — 139 AD) improved a water clock and invented a seismometer, and Ma Jun (200 — 265 AD) invented a chariot with differential gears. During the years from the 7th to the 15th century, there were remarkable contributions from Arabians in the field of mechanical technology, Al Jaziri, who was one of them, wrote his famous "Book of Knowledge of Ingenious Mechanical Devices" in 1206 in which he presented many mechanical designs. He is also considered to be the inventor of such mechanical devices that now form the very basics of mechanisms, such as crank and cam shafts.

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