

<<新世纪理工科英语教程>>

图书基本信息

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## <<新世纪理工科英语教程>>

### 前言

大学英语教学大纲（修订本）规定大学英语教学分为基础阶段（一至二年级）和应用提高阶段（三至四年级）。

应用提高阶段的教学包括专业英语（Subject-Based English，简称SBE）和高级英语（Advanced English，简称AE）两部分。

大纲明确指出：“大学英语教学的目的是培养学生具有较强的阅读能力和一定的听、说、写、译能力，使他们能用英语交流信息。

……以适应社会发展和经济建设的需要。

”新世纪对人才在外语方面提出了更高的要求。

抓好大学英语应用提高阶段的教学已势在必行。

编写本教材的目的是帮助理工科学生在应用提高阶段进一步发展、巩固和提高基础阶段已掌握的读、听、写、说、译五种技能，并使部分有一定口语基础的学生在听说能力方面也能有较大的提高，以适应21世纪对高级人才的需求。

本教材主要适用于已完成基础阶段学习的高等学校理工科本科生，为应用提高阶段的必修课和选修课教材，也可用作研究生教学或工程技术人员的外语培训教材。

全套教材由专业教师和英语教师合作编写而成。

它以英国语言学家H.G.Widdowson的交际法理论为依据，着重解决语言运用能力的培养问题，使学生将基础阶段已掌握的英语语言知识和技能在自己的专业领域中得到进一步实践和应用，从而达到能以英语为工具获取和交流信息的教学目的。

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### 内容概要

本书为Mechanical Engineering分册，供机械工程及相关专业的大学本科学子作专业英语（Subject—Based English，简称SBE）即大学第五、六学期教材使用，约需68学时。

本书分Text（课文）、Practical Writing（实用文写作）和Glossary（生词表）三部分。

Text（书中不注明）分20个单元，每个单元由Reading and Comprehension，Reading and Practice和Reading and Translation三部分组成。

全书选材面向21世纪的要求，以反映时代特色。

材料选自国外原版教材、文选、论著、会议论文、实用文件、报刊杂志等。

内容涉及机械工程及相关专业的基本物理概念、基础工程知识、发展简史或重大发明创造、人物传记、重要组织机构简介以及学科发展动向。

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UNIT TWO Reading and Comprehension History of the Computer Reading and Practice Manufacturing Engineering Reading and Translation Engineering Manufacturing Review

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PRACTICAL WRITING GLOSSARY APPENDIX Selected Popular Words in Mechanical Engineering

## 章节摘录

1. Design all functional and physical characteristics to be as simple as possible. : Complexity of the design has a direct bearing on production costs. As a general rule, the service life of a part can be extended considerably when the design of the parts is simple and sturdy. The load-carrying capacity of a part is more predictable when the design configuration is straightforward and uncomplicated.

2. Design for the most economical production method. It is particularly important to keep the scrap problem in mind. The ratio of the weight of original material required to the weight of the finished piece provides a clue to possible cost reductions. This is especially true for high-volume production of parts. Weight considerations often result in a reduction of scrap costs as well as a substantial cost savings of machining time.

3. Design for a minimum number of machining operations. The fewer operations necessary to complete a part to drawing specifications, the lower the cost. Needless fancy or nonfunctional configurations requiring extra operations and materials should be omitted from the design. Actually, the greatest savings obtained in designing for production usually result from a reduction in the number of separate processing operations required to complete a part.

4. Specify finish and accuracy no greater than are actually needed. Tolerance on finish and on dimensions plays an important part in achieving a practical production design. The specification of needlessly close tolerances and an unreasonable degree of surface roughness always result in excessive and, in some cases, prohibitive cost.

5. Accessibility of different parts or areas. All components and parts of the product should be accessible to facilitate regular cleaning and maintenance work. Unaccessible areas lend themselves to the accumulation of dirt with the final outcome being corrosion and / or malfunctioning of the product. Crevices, narrow slots, and bolts and nuts located in places where it is difficult to clean, mount, tighten or loosen, or remove them should be avoided.

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### 编辑推荐

《新世纪理工科英语教程：机械工程（学生用书）》为Mechanical Engineering分册，供机械工程及相关专业的大学本科生作专业英语（Subject—Based English，简称SBE）即大学第五、六学期教材使用，约需68学时。

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