

普通高等学校计算机专业特色教材

计算机专业 英语教程

(第4版)

主编 宋德富 司爱侠
编者 宋德富 司爱侠 张强华 张美兰
顾问 [美] Kenneth A. Peterson
Bonita L. Peterson

*English for
Computer
Technology*



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Jisuanji Zhuanye Yingyu Jiaocheng

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内容提要

本书是针对高等学校计算机专业英语课程而编写的教材。为了紧跟计算机技术的发展,本书在前一版的基础上对内容作了更新与补充。本书内容可分为基础类、核心类和扩展类三类,其中,基础类主要包括计算机硬件基础、计算机系统、CPU、存储器、显示系统、输入输出设备等,这类内容可帮助学生掌握计算机的基本知识;核心类主要包括网络、数据传输媒体,编程语言(C、Java和HTML),数据库,面向对象技术,计算机安全与病毒防治等,这类内容展现了计算机的相关技术,覆盖了计算机专业的一些主要技术领域;扩展类主要包括新型处理器、平板电脑、物联网、云计算以及网络搜索引擎等,这类内容可以扩大学生视野,为学生构建到达技术前沿的通道。本书的附录也颇为实用:“主课文的参考译文”有助于学生理解课文内容;“计算机英语读译技巧”有助于学生掌握阅读方法,提高翻译技巧;“计算机英语构词法”有助于学生迅速扩充计算机英语词汇,高效记忆单词;“主要词汇表”有助于学生复习所学过的单词。

本书可作为高等学校计算机专业英语课程教材,也可作为信息类专业(如电子商务、信息管理与信息系统、物联网工程)的专业英语课程的参考教材。

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前 言

一、目的

发展迅速是计算机科学与技术学科的一个显著特点。技术格局不断被刷新、计算机软硬件发展日新月异、新产品层出不穷,这就要求计算机行业内的技术开发人员必须具有快速学习新知识的能力,而专业英语则是必不可少的利器之一。因此,许多高校都开设了计算机专业英语课程,以培养学生的专业英语能力。本书即为满足此类课程的教学需要而编写,也可供信息类专业(如电子商务、信息管理与信息系统、物联网工程)的专业英语课程选用和参考。

二、内容

计算机专业涉及的知识内容十分广泛。在本书中,将相关内容分为以下三类。

- 基础类,主要包括计算机硬件基础、计算机系统、CPU、存储器、显示系统、输入输出设备等。这类内容可帮助学生掌握计算机的基本知识。

- 核心类,主要包括网络,数据传输媒体,编程语言(C、Java 和 HTML),数据库,面向对象技术,计算机安全与病毒防治等。这类内容展现了计算机的相关技术,覆盖了计算机专业的一些主要技术领域。

- 扩展类,主要包括新型处理器、平板电脑、物联网、云计算以及网络搜索引擎等。这类内容可以扩大学生视野,为学生构建到达技术前沿的通道。

本书有四个附录:

- 主课文的参考译文:可以帮助学生深刻理解课文内容,对比并体会翻译技巧。
- 计算机英语读译技巧:对计算机英语的阅读和翻译技巧进行了归纳和点拨,可使学生掌握阅读方法,提高翻译技巧。
- 计算机英语构词法:帮助学生掌握常用构词方法,便于他们迅速扩充计算机英语词汇,高效记忆单词。对分析新构造词汇的意义,尤其有效。
- 主要词汇表:以主课文单词为主线,同时包括阅读课文的新单词,便于学生复习所学过的单词。

三、体例

本书以单元为基本构件。每个单元基本上包括:

1. Passage
2. New Words(包含国际音标)
3. Phrases
4. Abbreviation(s)
5. Notes to the Passage

6. Comprehension Exercises to the Passage
7. Exercises to Terms and Words
8. Exercise to a short passage
9. Passage for Reading
10. Exercise to the Passage for Reading

本书依据教育部《大学英语课程教学要求》和我国大学英语教育的实际情况,对词汇进行了精心加工,纳入了一些在基础英语中相对冷僻而在计算机英语中常用的单词,并依据使用的频率对其进行分级标注(*号为基础词汇;**号为常用计算机词汇;***号为不常用词汇)。

本书的练习具有多样性:既有针对主课文和阅读课文理解的练习,也有针对专业术语的练习,尤其对使用频率极高的动词也安排了足够的练习。

Notes to the Passage 则重点讲解了课文中的长句和难句。

四、使用

使用本书时要着重考虑两个问题:学时数和学生状况。应根据各个学校的具体情况对本书进行适当的选择与调整。教材只是一个基础和平台,同一种教材在不同学校的教法也应有所不同,教师应根据本校情况制定适当的教学计划。要使教材效果最优,还需要教师进行进一步的加工、完善和创新。

掌握专业词汇是基本要求,通晓阅读方法是有效阅读专业文章的保证,掌握一定的翻译方法才能写出流畅的译文。因此,在教与学的过程中,以构词法促进词汇记忆,精读课文掌握阅读方法,对比参考译文领会翻译技巧,通过练习检验学习效果。

在有条件的学校,可以开展教学改革与创新。例如,可以让学生就本单元的主题组织演讲(如常用的存储器介绍);分成小组,搜集材料,完成某一技术主题的报告(如市场在售的各种打印机性能比较);辩论赛(如云计算技术利弊辩),等等。

五、教辅材料

为方便教学,教师可登录高等教育出版社相关网站(<http://computer.cncourse.com>)下载相关材料,包括练习参考答案、参考资料、参考试卷及答案。

六、致谢

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编者

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郑重声明

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UNIT 1

Passage: Computer Hardware

Para 1 Computer hardware can be divided into four categories: input hardware, storage-hardware, processing hardware, and output hardware.

Input Hardware

Para 2 The purpose of input hardware is to collect data and convert it into a form suitable for computer processing. The most common input device is a keyboard. It looks very much like a typewriter keyboard. Its keys are arranged in the typical typewriter layout. There are also a number of additional keys. They can be used to enter special computer-related codes. Although it isn't the only type of input device available, the computer keyboard is the one which is most generally used by the business community.

Storage Hardware

Para 3 The purpose of storage hardware is to provide a means of storing computer instructions and data in a form that is relatively permanent, that is, the data is not lost when the power is turned off and easy to retrieve when needed for processing. Storage hardware serves the same basic function as do office filing systems except that it stores data as electromagnetic signals or laser-etched spots, commonly on disk or tape, rather than on paper.

Processing Hardware

Para 4 The purpose of processing hardware is to retrieve, interpret, and direct the execution of software instructions which are provided to the computer. The most common components of processing hardware are the central processing unit and main memory.

Para 5 The central processing unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as

the amount of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated tasks in a very short time.

Para 6 Main memory (also called internal memory, primary storage, or just memory) can be thought of as an electronic desktop. The more desk surface you have in front of you, the more you can place on it. Similarly, if your computer has a lot of memory, you can place more software instructions in it. The amount of memory available determines whether you can run simple or sophisticated software; a computer with a large memory is more capable of holding the thousands of instructions that are contained in the more sophisticated software programs. A large memory also allows you to work with and manipulate great amounts of data and information at one time. Quite simply, the more main memory you have in your computer, the more you can accomplish.

Output Hardware

Para 7 The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. Hardcopy output can be held in your hand—examples are paper with text (words or numbers) or graphics printed on it. Softcopy output is displayed on a monitor, a television-like screen on which you can read text and graphics.

New Words

*	available [ə'veɪləbl]	adj.	可用的
*	category ['kætɪgəri]	n.	种类,类型,类别,分类
**	code [kəʊd]	n.	码,代码,编码,程序
*	community [kə'mjʊnəti]	n.	社区,社会
*	component [kəm'pəʊnənt]	n.	组件,元件,部件,组成部分
**	computer-related [kəm'pjʊ:təri'leɪtɪd]	adj.	与计算机有关的
*	contain [kən'teɪn]	vt.	包含,包括
*	convert [kən'veɪt]	vt.	转换,变换
*	coordinate [kəʊ'ɔ:dɪneɪt]	vt. n.	使协调,调节 坐标

**	desktop ['desktp]	adj. n.	桌面的,台式的 桌面
**	electromagnetic [ɪlekt'rəʊmæg'netɪk]	adj.	电磁的
*	execution [ɪk'sɪ'kju:ʃən]	n.	执行,实行
**	file [faɪl]	n. vt.	文件 (保存)文件,把……归档
**	function ['fʌŋkʃən]	n. vi.	函数;功能,操作 起作用
*	graphics ['græfɪks]	n.	图形,图形学
**	hardcopy [ˌhɑ:d'kɒpi]	n.	硬拷贝
**	hardware ['hɑ:dweə]	n.	硬件
**	input ['ɪnpʊt]	n.	输入
**	instruction [ɪn'strʌkʃən]	n.	指令,指导
*	internal [ɪn'tɜ:nəl]	adj.	内部的
***	laser-etched ['leɪzəretʃɪd]	adj.	激光蚀刻的
*	layout ['leɪaʊt]	n.	安排,(页面)布局,版面布置
**	manipulate [mə'nɪpjʊleɪt]	vt.	操作,控制,使用
**	memory ['meməri]	n.	记忆;存储(器),内存,主存
**	monitor ['mɒnɪtə]	n. vt.	监视,显示器,监视器(程序) 监视,监控
**	output ['aʊtpʊt]	n.	输出,输出设备
*	perform [pə'fɔ:m]	vt. & vi.	执行,完成,做,表演
*	permanent ['pɜ:mənənt]	adj.	永久的,持久的
**	program ['prəʊgræm]	n.	程序,步骤,节目单
**	retrieve [rɪ'tri:v]	vt.	检索,恢复,寻回
**	software ['sɒftweə]	n.	软件
*	sophisticated [sə'fɪstɪkətɪd]	adj.	高级的,复杂的

*	storage ['stɔ:ri:dʒ]	n.	存储,存储器
*	television-like ['telɪvɪʒənlaɪk]	adj.	像电视机的
*	unit ['ju:nɪt]	n. adj.	设备,单位 单位的

Phrases

amount of memory	内存量,内存容量
central processing unit	中央处理器
collect data	收集数据
computer instruction	计算机指令
computer processing	计算机处理
electromagnetic signals	电磁信号
electronic desktop	电子桌面
input hardware	输入硬件
keyboard function	键盘功能
main memory	主存储器,主存
manipulate data	管理数据
office filing system	办公室档案系统
on a monitor	在显示器上
output hardware	输出硬件
processing hardware	处理硬件
processing power	处理能力
retrieve the data	检索数据
sophisticated software	复杂软件
storage hardware	存储硬件
well-designed CPU	设计良好的中央处理器

Abbreviation

CPU	central processing unit	中央处理器
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Notes to the Passage

- Para 2** data 为 datum 的复数形式，但在美国，data 在语法上也可看做单数。因此，这里出现了用 it 代替 data 的情形，即...to collect data and convert it into a form suitable for computer processing。又如，This data has been collected from various sources（这项资料是从各方面收集来的）。实际上用 data is 要比用 data are 更常见。请读有关 data 的英语说明和译文：

Some authorities and publishers, cognizant of the word's Latin origin and as the plural form of "datum," use plural verb forms with "data". Others take the view that since "datum" is rarely used, it is more natural to treat "data" as a singular form.

有些权威部门和出版商认为 data 是拉丁词源 datum 的复数形式，其后使用复数动词；但也有很多人认为，既然 datum 这种形式使用得很少了，把 data 看做单数就更为自然了。
- Para 2** Although it isn't the only type of input device available, ...

本句话中的 available 为后置形容词，修饰前面的名词词组 the only type of input device，译为“可供使用的输入设备”。英语中的部分形容词可单独作为后置修饰语，例如，test the programs created（测试所创建的程序）；Software compatibility is determined by the kind of processor chip used（软件的兼容性是由所使用的处理器芯片种类决定的）。
- Para 3** ...that is relatively permanent, ...

需要注意的是，用 relatively 或 comparatively 修饰了形容词或副词就不能再用它们的比较级，如此处就不能说成 relatively more permanent。
- Para 3** ...and easy to retrieve when needed for ...

其中的 when needed 是一个省略状语从句，省去了主语 + be，这个省略状语从句相当于 when it (data) is needed。类似的情况如：A number of problems can occur when (you are) starting up.
- Para 3** ...Storage hardware serves the same basic function as do office filing systems...

本句话中的 do 为代动词，它代表了前面提到的动词短语 serve the same basic function（发挥相同的基本功能）。
- Para 3** ...except that it stores data as electromagnetic signals ...

本句话中的 except that 为从属连词，可用 but 代替 except。
- Para 3** ...commonly on disk or tape, rather than on paper.

“rather than”具有否定含义，常表示对照否定。本处意为：“通常存储在磁盘或磁带上，

而不是在纸上。”

Comprehension Exercises to the Passage

[Ex 1] *Decide whether the following statements are true (T) or false (F) in relation to the information in the passage.*

Input Hardware

1. The computer keyboard has exactly the same layout as the typewriter keyboard.
2. To enter special computer-related codes, you may use some additional keys.

Storage Hardware

3. We must use storage hardware to store computer instructions and data, otherwise they will be lost when the power is turned off.
4. Office filing systems store data as electromagnetic signals or laser-etched spots.

Processing Hardware

5. The processing hardware is mainly made up of CPU and memory.
6. The design of the CPU determines whether you can run simple or sophisticated software.
7. The more sophisticated software program, the more instructions it contains.
8. If you have a large memory in your computer, you'll be able to work with and process a large great amount of data and information at one time.

Output Hardware

9. The output hardware is a mean for the user to see information produced by the computer.
10. You can read hardcopy output on the monitor and softcopy output on paper.

[Ex 2] *Complete the following sentences according to the passage.*

1. The four categories of computer hardware are _____, _____, _____ and _____.
2. A well-designed CPU makes the computer have strong processing _____, and high processing _____ and uses the amount of main _____ effectively.
3. The brain of the computer is the _____.
4. The main memory can be also called _____ memory, _____ storage, or just _____.
5. The example for input device in this passage is the _____; the most common components of processing hardware are the _____ and _____ and the output device this passage deals with is the _____.

Exercises to Terms and Vocabularies

[Ex 3] **Part A.** Match each of the following terms to the phrase or definition that is most closely related.

- | | | | |
|--------------------|-------------|----------------|-------------|
| A. data processing | B. keyboard | C. information | D. computer |
| E. monitor | F. user | G. data | H. memory |

1. someone who does not necessarily have much technical knowledge about computers but who makes decisions based on information processed by the computer
2. equipment made up of a combination of electronic and electromechanical (电子机械) components that uses software to process data
3. raw, unorganized and not processed facts
4. meaningful and useful facts that have been processed from data by a computer
5. most common type of input device used with computers
6. processing of data into information
7. output device that can display text and graphics in a variety of colors
8. primary storage of the computer, which can be thought of as an electronic desktop

Part B. Use the terms mentioned above to complete the following sentences.

1. A display screen often called a monitor, serves as a window on main memory, allowing the _____ to view its contents.
2. Color _____ displays characters, charts, pictures, and diagrams in color.
3. A computer is a machine whose function is to accept _____ and process them into information.
4. The basic input device on most small and microcomputer systems is a _____.
5. A computer is a _____ machine.
6. Unless some human being needs the _____, there is no point to processing the data.
7. A _____ is a machine whose function is to accept data and process it into information.
8. A computer cannot execute a program stored on disk unless it is first copied into main _____.