职业技术教育软件人才培养模式改革项目成果教材

计算机英语（上）

邱仲潘　编

高等教育出版社

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内容提要

本书是职业技术教育软件人才培养模式改革项目成果教材。

本书针对计算机专业学生对英语学习和实际工作后强调阅读理解，强调简单文本写作和强调专业术语与基本科技英语语法的要求编写而成。共包括有54篇，分上、下两册，上册内容包括PC机的组成及连接、微处理器的工作原理、操作系统、Java编程等4个单元，下册包括数据库基础、网络基本知识、多媒体技术等3个单元。鉴于近来计算机病毒越来越猖獗，引起了广泛关注，本书最后两课介绍了计算机病毒的一些基本知识，旨在增加学生的阅读兴趣。下册的辅助读物包括电子邮件写作的详细技巧，学生工作过程中可能需要通过电子邮件与外国专家联系，了解一些文化背景和写作技巧能够使他们的工作更加顺畅。

本书适用于高等职业学校、高等专科学校、成人高校、本科院校举办的二级职业技术学院，也可供示范性软件职业技术学院、继续教育学院、民办高校、技能型紧缺人才培养使用，还可供本科院校、计算机从业人员和爱好者参考使用。

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出 版 说 明

信息产业是国民经济和社会发展基础性、战略性产业。加快发展信息技术和信息产业，以信息化带动工业化，以信息化促进工业化，是当前和今后我国产业结构调整发展的战略重点。软件产业是信息产业的核心，加快软件人才培养是加快软件产业发展的先决条件。为适应经济结构战略性调整及软件产业发展的需要，加快培养各类软件应用性人才，在国家改革和发展委员会、教育部的指导和支持下，福建省从2002年开始，在全国率先举办软件类高等职业技术教育，拟以办学模式和人才培养模式改革为重点，积极探索有水平、有质量、有特色的软件高职教育发展的新路子。

在软件类高等职业技术教育改革和建设过程中，福建省坚持教育创新，把改革教学内容和课程体系，加强专业建设、教材建设和教学队伍建设作为工作的重点。目前，根据软件行业发展趋势、就业环境和软件高等职业技术教育的办学特点，经组织专家论证和审定，福建省高校首批开设了可视化编程、Web应用程序设计、软件测试、网络系统管理员、网络构建技术、数据库管理员、图形图像制作、多媒体制作、计算机办公应用等9个软件高职专业，制订了较为科学合理的人才培养方案。为配合支持软件类高职教育的改革和建设，福建省教育厅聘请软件教育有关专家、学者和著名软件企业的高级工程技术人员成立了“职业技术教育软件人才培养模式改革项目成果教材编审委员会”，以“抓好试点规划，实施精品战略”为指导方针，认真吸取国内外软件技术发展成果，根据软件企业对人才培养提出的新要求和软件高职的办学特点，认真处理好教材的统一性与多样化、基本教材与辅助教材、学历教育教材与认证培训教材的关系，以组织开展软件高职公共基础课、专业基础课和专业主干课教材的建设为重点，同时扩大品种，实现教材系列配套，在此基础上形成特色鲜明、优化配套的软件高等职业技术教育教材体系。

本软件系列教材适用于本科院校、高职高专院校、成人高校及继续教育学院的软件高职类专业及相关专业使用。

职业技术教育软件人才培养模式改革项目成果教材编审委员会

二〇〇三年五月

前　言

从事计算机行业的人，难免会遇到大量英文资料、教材、技术手册和联机说明。学好专业英语对计算机专业学生非常重要，尤其是高职高专计算机专业学生，很多人毕业后会从事专业的软件编程工作。所以，对于高职高专计算机专业学生，关键是读懂英文的软件需求文档和在编程中根据要求插入简单的英文注释文本，因此在本书编写过程中，我们一直认为应该强调阅读理解，强调简单文本写作和强调专业术语与基本科技英语语法。同时，为了提高效率和便于工作中的资料积累与交流，还应该介绍一些翻译技巧，使学生既能够把看懂的内容用比较准确和流畅的中文表达出来，又能够把软件设计与实现中的思路翻译成简单英文。

针对软件职高学生的特点，我们编写的教材精选了硬件、操作系统、编程、网络、数据库、多媒体等方面的文章，分解成篇幅较短的54篇课文，每篇课文设置了问题与翻译练习，使学生可以通过练习检查阅读理解情况。课文后面还用英语提供关键术语的解释，使有兴趣的学生可以了解到许多相关专业知识和有趣的词源知识。此外，文章后面还有参考读物，难度略大于课文。建议老师在保证学生掌握课文内容的前提下，根据学生接受情况和兴趣水平决定教学内容的深浅。兴趣是最好的老师，本教材努力通过各种背景知识和词源知识增加趣味性，老师还可以通过调动学生积极参与课堂教学活动激发学生的学习兴趣，可以鼓励学生自己从网络和其他地方寻找相关资料，扩大视野，并且把学习的专业英语知识应用到其他专业课程的学习中，切实体会计算机英语的作用，变“要我学”为“我要学”。

高职高专计算机英语课程分3学期，建议每个学期学习18篇课文，3个学期共学54篇。本教材分上、下两册，上册内容包括PC机的组成及连接、微处理器的工作原理、操作系统、Java编程等4个单元，下册包括数据库基础、网络基本知识、多媒体技术等3个单元，鉴于近来计算机病毒越来越猖獗，引起了广泛关注，本书最后两课介绍了计算机病毒的一些基本知识，旨在增加学生的阅读兴趣。下册的辅助读物包括电子邮件写作的详细技巧，学生工作过程中可能需要通过电子邮件与外国专家联系，了解一些文化背景和写作技巧能够使他们的工作更加顺畅。

感谢福建省软件高职高专指导委员会李堂秋主任、黄旭明秘书长、陈启安教授和高等教育出版社为我提供了编写本书的机会，感谢2004年福建省首届软件高职高专计算机英语师资培训班的全体同学对本书的编写投入了大量的精力和提出了宝贵的意见。由于时间仓促，书中难免存在错误和疏漏之处，期待各位老师和同学不吝赐教，以便今后修订时改正和增补。

邱仲潘

2004年10月

郑重声明

目　　录

Lesson 1 PC Overview

Warm-up Exercises

1. Which kinds of computers do you know?
2. Which parts of computer you know? What are their functions?

Text

When you mention the word "technology", most people think about computers. Virtually every facet of our lives has some computerized components. The appliances in our homes have microprocessors built into them, as do our televisions. Even our cars have a computer, but the computer that everyone thinks of first is typically the personal computer, or PC. (See figure 1-1)

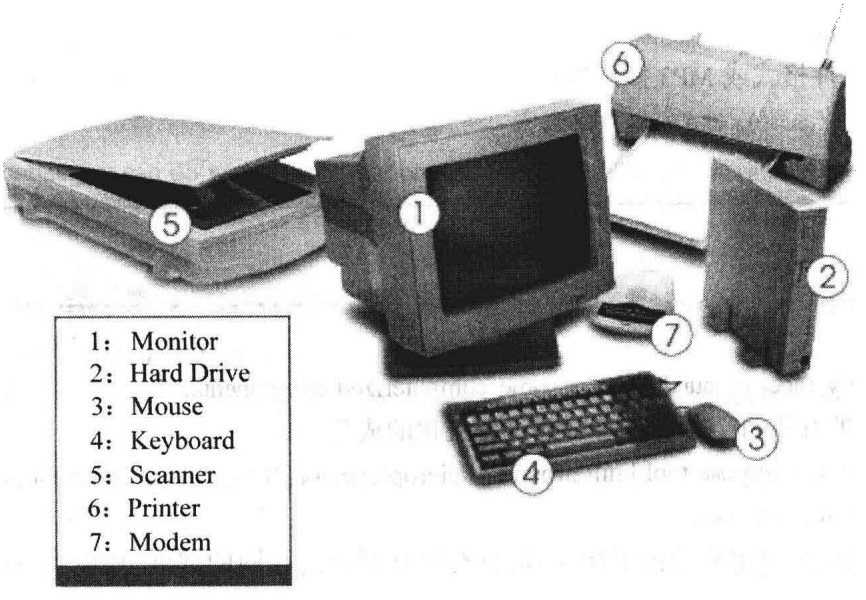

Figure 1-1

A PC is a general purpose tool built around a microprocessor. It has lots of different parts—memory, a hard disk, a modem, etc. —that work together. "General purpose" means that you can do many differ-

ent things with a PC. You can use it to type documents, send E-mail, browse the Web and play games.

Here is one way to think about it: A PC is a general-purpose information processing device. It can take information from a person(through the keyboard and mouse), from a device(like a floppy disk or CD)or from the network(through a modem or a network card)and process it. Once processed, the information is shown to the user(on the monitor), stored on a device(like a hard disk)or sent somewhere else on the network(back through the modem or network card). We have lots of special-purpose processors in our lives. An MP3 Player is a specialized computer for processing MP3 files. It can't do anything else. A GPS is a specialized computer for handling GPS signals. It can't do anything else. A Gameboy is a specialized computer for handling games, but it can't do anything else. A PC can do it all because it is general-purpose.

Key Terms and Expressions

1. computerized component(计算机化组件)。
2. processor(处理器), microprocessor(微处理器)。
3. browse the web(浏览网络), browser(浏览器)。
4. keyboard(键盘)。
5. mouse(鼠标)。
6. floppy disk(软盘)。
7. monitor(显示器)。
8. MP3(MP3 文件格式或 MP3 播放器)。
9. GPS(全球定位系统)。

Notes

1. Virtually every facet of our lives has some computerized components.
   我们生活中的几乎每个方面都有一些计算机化的成分。
2. A PC is a general purpose tool built around a microprocessor. It has lots of different parts—memory, a hard disk, a modem, etc.
   PC 机是利用微处理器建立的通用工具,具有相互配合的不同的部件,如内存、硬盘、调制解调器等。
3. Once processed, the information is shown to the user.
   处理信息之后,结果向用户显示。
4. A Gameboy is a specialized computer for handling games.

Gameboy 是处理游戏的专用计算机。

Exercises

1. Answer the questions

1) What kind of household appliances have microprocessors built into?
2) What does PC refer to in this book?
3) What can you do with a PC?
4) What can a general-purpose PC do?
5) Can you give some examples of special-purpose PCs in our life?

2. Translate the following sentences into Chinese

1) The appliances in our homes have microprocessors built into them, as do our televisions.
2) It can take information from a person(through the keyboard and mouse), from a device(like a floppy disk or CD)or from the network(through a modem or a network card)and process it.
3) An MP3 Player is a specialized computer for processing MP3 files. It can't do anything else. A GPS is a specialized computer for handling GPS signals. It can't do anything else.

3. Simple writing

Please describe what you can do with a PC, what can a general-purpose PC do, and give some examples of special-purpose PCs in our life.

Supplementary Reading

Definition and Etymology of Computer

As currently defined by The Oxford English Dictionary, Second Edition(OED2)a computer is a device for making calculations or controlling operations that are expressible in numercial or logical terms. While factually accurate this definition and those found in other dictionaries, are so broad that they fail to differentiate between the many types of historic, contemporary and potential future computers. More meaningful questions might be: What are the different types of computer? Or, what are the distinguis-

hing features and capabilities of a contemporary computer?

The meaning of the word computer has changed but has always lagged behind the capabilities of machines in use at the time. The word was originally used to describe a person who performed arithmetic calculations and this usage is still valid. The OED2 lists the year 1897 as the first year the word was used to refer to a mechanical calculating device. By 1946 several qualifiers were introduced by the OED2 to differentiate between the different types of machine. These qualifiers included analogue, digital and electronic. However, from the context of the citation, it is obvious these terms were in use prior to 1946.

Additional Materials

BIOS 简介

BIOS 是一段储存在快闪内存(FLASH MEMORY)中的基本输出、输入控制程序。该程序是主机板与操作系统间的一座桥梁,负责管理主机板和扩充卡之间的相关参数设定,例如:时间、日期、软盘驱动器设定和 CPU Magic Setting、硬盘设定、设备工作状态设定等复杂的参数设定。当计算机激活时,会先由 BIOS 程序进行控制。首先执行一个称为 POST(开机自检)的自测,它会侦测所有硬件设备,并确认同步硬件参数。当完成所有检测时,它才将系统的控制权移交给操作系统(OS)。由于 BIOS 是硬件与软件联系的唯一信道,如何妥善地设定 BIOS 中的参数,将决定您的电脑是否稳定运行,是否工作在最佳状态。所以 BIOS 的正确设定是系统稳定性的关键因素,进而确保系统性能可达到最佳状态。

所以,在 BIOS 设定程序主目录中,可看到一些选项,我们将在后面逐步解释这些选项。首先让我们看看将在此用到的功能键的简单描述:

① 按〈Esc〉键,可退出 BIOS 设定程序或者退回到当前控制菜单的上一级菜单。

② 按↑ ↓←→(向上,向下,向左,向右)键,可在主目录中选择你想确认或修改的选项。

③ 想要对选项进行参数设定时请按 Page Up/Page Down 或 +/- 键,或者按下 Enter 键之后在弹出的菜单内用上、下方向键进行选择之后再按 Enter 键确认。

④ 按 F1 键,则会弹出一个线上说明的小窗口,该窗口描述了该选项中可用的指令以及可能的选择。再按〈Esc〉键,则可退出该线上说明窗口。

⑤ 完成对参数的设定后,请按〈F10〉键,储存修改的参数并退出 BIOS 设定程序,同时计算机也会自动重新开机。

(一) 进入 BIOS 设置界面

在计算机启动的时候会提示你按〈Del〉键进入 BIOS 设置界面,如果你来不及在上述过程中按下〈Del〉键顺利进入 BIOS 设定界面,那么可以通过把电源关掉,然后再打开电源开关,或者是直接按下计算机机壳上的"RESET"按钮重新激活系统,还可以同时按下〈Ctrl-Alt-Del〉组合键来以重新激活计算机,并再按〈Del〉键试一次。如果没能在正确时间内按下以上所有的键,或者

系统重新激活失败,此时在屏幕上会显示错误信息如下:

Press 〈F1〉 to continue,〈Ctrl-Alt-Del〉 or 〈Del〉 to enter Setup

你可按〈F1〉键继续,或按〈Ctrl-Alt-Del〉组合键重新激活计算机,按〈Del〉键进入 BIOS 设定界面。

(二) 获得帮助(主菜单)

在 BIOS 设置程序主菜单下,对于所选取的设定功能,在屏幕下方会显示您当前选择的选项的内容提示以及帮助信息。按 F1 键可以获得一些操作方面的帮助信息,该信息将会以窗口的方式进行显示。进入 BIOS 设置程序子菜单,在屏幕的右半边会显示您当前光标所停留的选项的帮助信息一级功能提示。

Lesson 2 On the Inside

Warm-up Exercises

1. What are the main components of desktop computer?
2. Which parts of computer are familiar to you? Why?
3. Which parts are totally new to you? Why?

Text

Let's take a look at the main components of a typical desktop computer.

- Central Processing Unit(CPU)—The microprocessor, "brain" of the computer system, is called the central processing unit. Everything that a computer does is overseen by the CPU.
- Memory—This is very fast storage used to hold data. It has to be fast because it connects directly to the microprocessor. There are several specific types of memory in a computer:
    - Random Access Memory(RAM)—Used to temporarily store information that the computer is currently working with.
    - Read-Only Memory(ROM)—A permanent type of memory storage used by the computer for important data that does not change.
    - Basic Input/Output System(BIOS)—A type of ROM that is used by the computer to establish basic communication when the computer is first turned on.
    - Caching—The storing of frequently used data in extremely fast RAM that connects directly to the CPU.
- Virtual memory—Space on a hard disk used to temporarily store data and swap it in and out of RAM as needed Motherboard—This is the main circuit board that all of the other internal components connect to. The CPU and memory are usually on the motherboard. Other systems may be found directly on the motherboard or connected to it through a secondary connection. For example, a sound card can be built into the motherboard or connected through PCI.
- Power supply—An electrical transformer regulates the electricity used by the computer.
- Hard disk—This is large-capacity permanent storage used to hold information such as programs and documents.
- Operating System(OS)—This is the basic software that allows the user to interface with the computer.

- Integrated Drive Electronics (IDE) Controller—This is the primary interface for the hard drive, CD-ROM and floppy disk drive.
- Peripheral Component Interconnect (PCI) Bus—The most common way to connect additional components to the computer, PCI uses a series of slots on the motherboard that PCI cards plug into.
- SCSI—Pronounced "scuzzy", the small computer system interface is a method of adding additional devices, such as hard drives or scanners, to the computer.
- Accelerated Graphics Port (AGP)—This is a very high-speed connection used by the graphics card to interface with the computer.
- Sound card—This is used by the computer to record and play audio by converting analog sound into digital information and back again.
- Graphics card—This translates image data from the computer into a format that can be displayed by the monitor.

Key Terms and Expressions

1. CPU (中央处理单元)。
2. RAM (随机存取内存), ROM (只读存取内存)。

● RAM

(1) 〈*storage*〉 Random Access Memory. (2) 〈*humour*〉 Rarely Adequate Memory. A humorous reference to the fact that programs and data expand to fill the memory available.

● ROM

ROM or Read-Only Memory is a type of data storage device which is manufactured with fixed contents. In its most general sense, the term might be used for any storage system whose contents cannot be altered, such as a gramophone record or a printed book; however, the term is most often applied to semiconductor integrated circuit memories, of which there are several types, and CD-ROM. ROM is inherently non-volatile storage—it retains its contents even when the power is switched off, in contrast to RAM. ROM is often used to hold programs for embedded systems since these usually have a fixed purpose. ROM is also used for storage of the lowest level bootstrap software(firmware)in a computer.

3. BIOS (基本输入/输出系统, Basic Input/Output System)。
4. caching (高速缓冲存储)。
5. OS (operating system, 操作系统)。
6. IDE (集成驱动电路, Integrated Drive Electronics)。
7. SCSI (小型计算机系统接口)。
8. AGP (Accelerated Graphics Port, 图形加速端口)。

A bus specification by Intel which gives low-cost 3D graphics cards faster access to main memory on

personal computers than the usual PCI bus. AGP dynamically allocates the PC's normal RAM to store the screen image and to support texture mapping, z-buffering and alpha blending. Intel has built AGP into a chipset for its Pentium II microprocessor. AGP cards are slightly longer than a PCI card. AGP operates at 66 MHz, doubled to 133 MHz, compared with PCI's 33 MHz. AGP allows for efficient use of frame buffer memory, thereby helping 2D graphics performance as well.

AGP provides a coherent memory management design which allows scattered data in system memory to be read in rapid bursts. AGP reduces the overall cost of creating high-end graphics subsystems by using existing system memory.

9. sound card(声卡)。
10. graphics card(显卡,图形卡)。

Notes

1. Everything that a computer does is overseen by the CPU.
   计算机所做的一切都由 CPU 监控。
2. Space on a hard disk used to temporarily store data and swap it in and out of RAM as needed.
   硬盘空间临时存储数据,在需要时与 RAM 交换这些数据。
3. Motherboard is the main circuit board that all of the other internal components connect to.
   主板是与所有其他内部组件连接的主线路板。
4. Hard disk is a large-capacity permanent storage used to hold information.
   硬盘是大容量永久存储器,保存程序和文档之类的信息。
5. PCI uses a series of slots on the motherboard that PCI cards plug into.
   PCI 使用主板上的一系列槽,插入 PCI 卡。

Exercises

1. Answer the questions

1) How many kinds of memory are there? What are they?
2) What is virtual memory?

2. Translate the following sentences into Chinese

1) The CPU and memory are usually on the motherboard. Other systems may be found directly on the

motherboard or connected to it through a secondary connection.

2) Operating system is the basic software that allows the user to interface with the computer.

3) Sound card is used by the computer to record and play audio by converting analog sound into digital information and back again.

3. Simple writing

Please describe the main components of desktop computer.

Supplementary Reading

The Exponential Progress of Computer Development

The complexities involved in classifying the various types of computer are compounded by the exponential growth in computing capacity. Roughly speaking computing devices have doubled in capacity(instructions processed per second per $1,000)every 18 to 24 months since 1900. Gordon E. Moore, Cofounder of Intel, first described this property of computer development in 1965(see Moore's Law). The exponential growth in capacity has been sustained by the rapid evolution of engineering techniques used to build computers. Hand-in-hand with this increase in capacity per unit cost has been an equally dramatic process of miniaturization. The first electronic computers, such as the ENIAC(announced in 1946), were huge devices that weighed tons, occupied entire rooms, and required many operators to function successfully. They were so expensive that only governments and large research organizations could afford them and were considered so exotic that only a handful would ever be required to satisfy global demand. By contrast modern computers are orders of magnitude, more powerful, less expensive, smaller and have become ubiquitous.

Additional Materials

BIOS 主菜单与标准 CMOS 设定

(一) BIOS 主菜单

一旦进入 BIOS CMOS 设定界面主目录(figure 2-1),就可以从功能选项和两项退出选项中加以选择。使用方向键在各选项之间进行选择,再按〈Enter〉键接受或是进入子目录。在屏幕下半部分会显示常用的操作按键提示。