

# ESP

● 专门用途英语系列教材

# 机电英语

**English for  
Mechanical & Electrical  
Engineering**

教育部《机电英语》教材编写组 编

高等教育出版社

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***English***  
**for**  
***Mechanical & Electrical***  
***Engineering***

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## 内 容 提 要

专门用途英语系列教材是教育部规划的高等学校(包括高等专科院校和高等职业院校)专业英语阶段的英语教材,也可供电大、各类成人院校及广大专业人员学习专业英语,提高涉外业务交际能力使用。

《机电英语》是该系列教材之一。本书从专业人员实际工作的需要出发进行设计和编写,选材新颖,点面结合,内容丰富,语言规范,练习兼具实用性和针对性。

全书由10个单元组成,每单元包括专业文献阅读与翻译、涉外业务应用文模拟套写和专业会话三部分。书后附有练习参考答案和课文参考译文。

本书配有录音磁带。

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## 前 言

专门用途英语系列教材是教育部规划的高等学校专业英语阶段的英语教材。本系列教材从高级应用型人才培养的总体目标出发,结合学生毕业后的工作实际,力求向学生提供其未来工作岗位所需要的专业英语知识和技能,培养学生使用涉外业务英语的能力。

本系列教材每种书都由10个单元组成。每单元包括阅读与翻译、模拟套写和听力与会话三部分。

本系列教材主要供高等院校(包括高等专科院校和高等职业院校)专业英语使用,也可供电大、各成人院校及广大专业人员学习专业英语、提高涉外业务交际能力使用。

《机电英语》系专门用途英语系列教材中的一种,旨在提高机电专业的学生和从业人员在机电领域的涉外业务英语交际能力。其中包括专业阅读、翻译、写作和口头交际的能力。

《机电英语》共10个单元,每单元包括三个部分:

第一部分为“阅读与翻译”(Reading and Translating),旨在培养学生阅读和翻译机电专业英语的能力。本部分收入了两类文章:第一类为专业技术性文章,用来培养学生阅读和翻译机电专业技术文献的能力。内容涉及现代设计与制造、通讯、楼宇设施、机动车、印刷设备、电气工程、自动化、空调、数控、家用电器等;第二类为有关机电专业领域的实用性文章,内容涉及AutoCAD的主菜单、SIM卡、招贴通告、设备标牌、印刷厂商介绍、精密加工、设备引进与人员培训、安全注意事项、激光应用、数码相机使用说明等。每篇文章后均配有适量的阅读和翻译练习。

第二部分为“模拟套写”(Simulated Writing),旨在培养学生参照范例用英语模拟套写,并翻译机电领域的商业信函、传真与电子邮件、信用证、商业发票、汇票、提单、产地证明书、保险单、销售合同、权益转让证等的能力。本部分提供了一定数量的机电专业领域的涉外应用文范文,同时还设计了必要的翻译、套写练习。

第三部分为“听力与会话”(Listening and Speaking),旨在培养学生进行机电专业涉外口语交际的能力。内容涉及交易会与展览、询盘、报盘与还盘、包装与装运、付款、合同谈判、代理、广告与促销、建立合资企业、技术转让与合作等。每单元均配有四个情景对话,并编配了涉外业务口语交际的常用表达法,供学习者临摹仿运用。学习者应做到“学中用、用中学”。

本教材构思独特、实用性强,尤其突出了机电专业涉外业务的实际选材新颖、点面结合、内容丰富。语言规范,练习也兼具实用性和针对性,为便于学习,各单元每一部分均注有生词和短语,书末还附有总词表。

《机电英语》的总主编为孔庆炎教授,主编为杨文明。

《机电英语》的编者:杨新义、杨文明、章国军、赵冬云、任劲松。

本书承机电界有关专家及深圳职业技术学院的外籍教师Katherine O'leary Alan Miller Ruth Follos审阅 并提出宝贵意见 深圳职业技术学院大学英语部的部分教师参加了教材的资料搜集 校对和编排打印工作 深圳职业技术学院的领导和有关教师对教材的编写给予了大力支持 在此一并表示感谢

由于编者水平有限 加之时间紧迫 疏漏和不妥之处在所难免 恳请读者不吝指教

编 者

2001年3月

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# 1

## UNIT

# Modern Design and Manufacturing

### Part 1

### Reading and Translating

#### ■ Reading A

Read the following passage, paying attention to the questions on the left.

### CAD/CAM

CAD/CAM is a term which means computer-aided design and computer-aided manufacturing. It is the technology concerned with the use of digital computers to perform certain functions in design and production. This technology is moving in the direction of greater integration of design and manufacturing, two activities which have traditionally been treated as distinct and separate functions in a production firm. Ultimately, CAD/CAM will provide the technology base for the computer-integrated factory of the future.

1. What can CAD do as far as you know?

Computer-aided design (CAD) can be defined as the use of computer systems to assist in the creation, modification, analysis, or optimization of a design. The computer systems consist of the hardware and software to perform the specialized design functions required by the particular user firm. The CAD hardware typically includes the computer, one or more graphics display terminals, keyboards, and other peripheral equipment. The CAD software consists of the computer programs to implement computer graphics to facilitate the engineering functions of the user company. Examples of these application programs include stress-strain analysis of components, dynamic response of mechanisms, heat-transfer calculations, and numerical control part programming. The collection of application programs will vary from one user firm to the next because their product lines, manufacturing processes, and customer markets are different. These





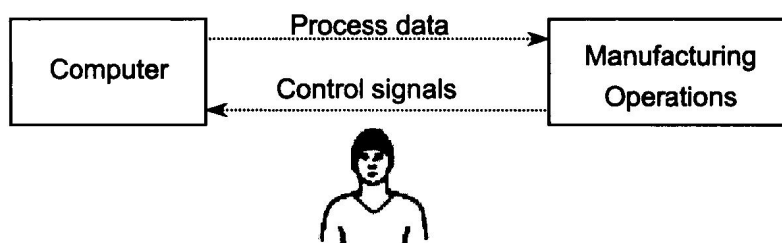
2. What can CAM be used for?
3. What are the functions of computers in CAM?

factors give rise to differences in CAD system requirements.

Computer-aided manufacturing (CAM) can be defined as the use of computer systems to plan, manage, and control the operations of a manufacturing plant through either direct or indirect computer interface with the plant's production resources. As indicated by the definition, the applications of computer-aided manufacturing fall into two broad categories:

1. Computer monitoring and control. 2. Manufacturing support applications. The distinction between the two categories is fundamental to an understanding of computer-aided manufacturing.

In addition to the applications involving a direct computer-process interface for the purpose of process monitoring and control, computer-aided manufacturing also includes indirect applications in which the computer serves a support role in the manufacturing operations of the plant. In these applications, the computer is not linked directly to the manufacturing process. Instead, the computer is used "off-line" to provide plans, schedules, forecasts, instructions, and information by which the firm's production resources can be managed more effectively. The form of the relationship between the computer and the process is represented symbolically in the figure given below. Dashed lines are used to indicate that the communication and control link is an off-line connection, with human beings often required to consummate the interface. However, human beings are presently required in the application either to provide input to the computer programs or to interpret the computer output and implement the required action.



CAM for manufacturing support

### NEW WORDS AND EXPRESSIONS

category /'kætigəri/ *n.*

分类

component /kəm'pəʊnənt/ *n.*

部分, 配件, 部件

consummate /'kɒnsəmeɪt/ *v.*

使圆满, 使完成

define /di'fain/ *v.*

界定, 给...下定义

digital /'dɪdʒɪl/ *a. & n.*

数字(的)

distinct /di'stɪŋkt/ <i>a.</i>	清楚的
distinction /di'stɪŋkʃən/ <i>n.</i>	区别, 差别
dynamic /daɪ'næmɪk/ <i>a.</i>	动力的; 动态的
effectively /ɪ'fektɪvli/ <i>ad.</i>	有效地
facilitate /fə'sɪlɪteɪt/ <i>v.</i>	使容易, 使便利, 促进
implement /'ɪmplɪmənt/ <i>v.</i>	实现; 执行
input /'ɪnpʊt/ <i>v. &amp; n.</i>	输入
integrate /'ɪntɪ'greɪt/ <i>v.</i>	使完整, 使一体化
integration /ɪntɪ'greɪʃən/ <i>a.</i>	一体化
interface /'ɪntəfeɪs/ <i>n.</i>	界面, 接口
interpret /ɪn'tə:prɪt/ <i>v.</i>	解释, 说明
keyboard /'ki:bɔ:d/ <i>n.</i>	键盘
modification /mɒdɪfɪ'keɪʃən/ <i>n.</i>	修改, 更改
off-line /'ɒf laɪn/ <i>ad.</i>	脱机
optimization /ɒptɪmaɪ'zeɪʃən/ <i>n.</i>	最佳化, 优化
output /'aʊtpʊt/ <i>v. &amp; n.</i>	输出
strain /streɪn/ <i>n.</i>	应变
stress /stres/ <i>n.</i>	压力, 应力
symbolically /sɪm'bɒlɪkəli/ <i>ad.</i>	象征性地
terminal /'tɜ:mɪnəl/ <i>n.</i>	终端
ultimately /'ʌltɪmɪtli/ <i>ad.</i>	最后, 最终; 最重要的是
give rise to	引起, 使发生
move in the direction of	朝...方向移动/发展
provide for	提供

## NOTES

- |                                       |          |
|---------------------------------------|----------|
| 1. CAD (computer-aided design)        | 计算机辅助设计  |
| 2. CAM (computer-aided manufacturing) | 计算机辅助制造  |
| 3. computer monitoring and control    | 计算机监控    |
| 4. manufacturing support applications | 生产支持应用软件 |
| 5. peripheral equipment               | 外围设备(外设) |
| 6. computer graphics                  | 电脑制图     |





## Check Your Understanding

### I Mark the following statements with T (true) or F (false) according to the passage

- ☐ 1 CAD/CAM is concerned with the use of digital computers to perform certain functions in design and production
- ☐ 2 CAD/CAM does provide the technology base for the computer-integrated factory now
- ☐ 3 The computer systems perform specialized design functions only with the software provided
- ☐ 4 The CAD software facilitates the engineering functions of the user firms
- ☐ 5 The collection of application programs will never change
- ☐ 6 The CAD system requirements change with the customer markets
- ☐ 7 The distinction between CAM's two categories is not important to the understanding of CAM
- ☐ 8 The firm's production resources can be managed more effectively with the indirect application of CAM

### II Give brief answers to the following questions

- 1 What will CAD/CAM provide for the computer-integrated factory of the future?  
\_\_\_\_\_
- 2 What does the CAD hardware typically include?  
\_\_\_\_\_
- 3 Why will the collection of application programs vary?  
\_\_\_\_\_
- 4 Can CAM control the operation of a manufacturing plant through the indirect computer interface?  
\_\_\_\_\_
- 5 What is fundamental to the understanding of CAM?  
\_\_\_\_\_
- 6 Besides providing input to the computer programs what else can human beings do in the application?  
\_\_\_\_\_



## Build Up Your Vocabulary

### III Match the items listed in the following two columns

- |                        |   |
|------------------------|---|
| 1 software             | a programs opposed to system ones   |
| 2 user firm            | b company which applies CAD/CAM to production   |
| 3 application programs | c the programs used to direct the operation of a computer   |
| 4 numerical control    | d an arrangement of machines or sequence of operations involved with a single manufacturing operation |
| 5 product lines        | e control of a machine tool or other devices in a manufacturing process by a computer                 |

- |                                |  |
|--------------------------------|--|
| 6. manufacturing plant         | f. factory where many things are produced  |
| 7. computer interface          | g. devices or programs designed to link one system to another                                    |
| 8. off-line                    | h. the act or process of computing the removed heat  |
| 9. output                      | i. information in a form suitable for transmission from internal to external units of a computer |
| 10. heat-transfer calculations | j. operating independently of an associated computer   |

**IV. Fill in the table below by giving the corresponding translation.**

English	Chinese
graphics display terminals	
	键盘
peripheral equipment	
	硬件
stress-strain analysis	
	应用程序
computer monitoring and control	
	动态响应
computer interface	
	优化设计



**V. Complete the following sentences by translating the Chinese given in the brackets.**

- This technology is moving \_\_\_\_\_ (正朝着更广泛的应用方向发展).  
(in the direction of)
- CAD/CAM will \_\_\_\_\_ (为未来的计算机集成工厂提供技术基础).  
(provide for)
- The computer systems \_\_\_\_\_ (由硬件和软件构成).
- The class \_\_\_\_\_ (年龄从 15 岁到 18 岁不等).  
(vary from ... to ...)
- He decided \_\_\_\_\_ (要么修好这台电脑, 要么买台新的).
- This computer \_\_\_\_\_ (并没有与制造过程直接连在一起).  
(be linked to)

## ■ Reading B

### AutoCAD's Main Menu

**AUTOCAD ®**

**Main Menu**

- 0 Exit AutoCAD
- 1 Begin a NEW drawing
- 2 Edit an EXISTING drawing
- 3 Plot a drawing
- 4 Printer Plot a drawing
- 5 Configure AutoCAD
- 6 File Utilities
- 7 Compile shape/font description file
- 8 Convert old drawing file
- 9 Recover damaged drawing

Enter selection \_\_\_\_\_

Here's a listing of what each main menu selection does

Option 0 (Exit AutoCAD) gets you back to the operating system

Options 1 (Begin a NEW drawing) and 2 (Edit an EXISTING drawing) are where you create, edit and store your drawings in AutoCAD

Options 3 (Plot a drawing) and 4 (Printer Plot a drawing) are where you can print and plot your drawings

Option 5 (Configure AutoCAD) steps you through AutoCAD's interactive utility to let the CAD program know what hardware you are using

Option 6 (File Utilities) lets you perform disk file maintenance operations just as if you were using the operating system

Options 7 (Compile shape/font description file) and 8 (Convert old drawing file) are special situations and will not be covered in this article. See *CUSTOMIZING AutoCAD* (New Riders Publishing) or the *AutoCAD Reference Manual* for details

Option 9 (Recover damaged drawing) is for salvaging a drawing file in which AutoCAD detects an error and will not load

#### NEW WORDS

AutoCAD

configure /kən fiɡə/ v

detect /dɪ tekt/ v

interactive /ɪntə æktɪv/ a

计算机辅助绘图软件

配置

发现, 探知

互动的, 交互的

maintenance / meɪntɪnəns/ *n*

维修 保养

plot /plot/ *v*

规划 绘制

salvage /sælˈvɪdʒ/ *v*

抢救 挽救

utility /juːˈtɪlɪti/ *n*

实用 效用 (复)设施

**I Translate the following phrases into Chinese**

- 1 main menu
- 2 operating system
- 3 begin a new drawing
- 4 edit an existing drawing
- 5 recover damaged drawing
- 6 configure AutoCAD
- 7 perform disk file maintenance operations
- 8 interactive ability

**II Give brief answers to the following questions**

- 1 Which selection do you have to enter if you want to return to the operating system?  
\_\_\_\_\_
- 2 Where do you think you will probably spend most of your AutoCAD hours?  
\_\_\_\_\_
- 3 Which selection do you need to enter if you feel it necessary to modify an existing drawing?  
\_\_\_\_\_
- 4 What should you do every time you want to create a new drawing?  
\_\_\_\_\_
- 5 How can you print your drawings?  
\_\_\_\_\_
- 6 What is the function of Option 9?  
\_\_\_\_\_

**III Translate the following sentences into Chinese**

- 1 The drawing editor is the AutoCAD equivalent (相等物) to your drafting board  
\_\_\_\_\_
- 2 Option 6 lets you perform disk file maintenance operations just as if you were using the operating system  
\_\_\_\_\_
- 3 Options 1 and 2 are where you create edit and store your drawings in AutoCAD  
\_\_\_\_\_
- 4 If you have exited to the operating system start up AutoCAD again by typing \\A  
\_\_\_\_\_



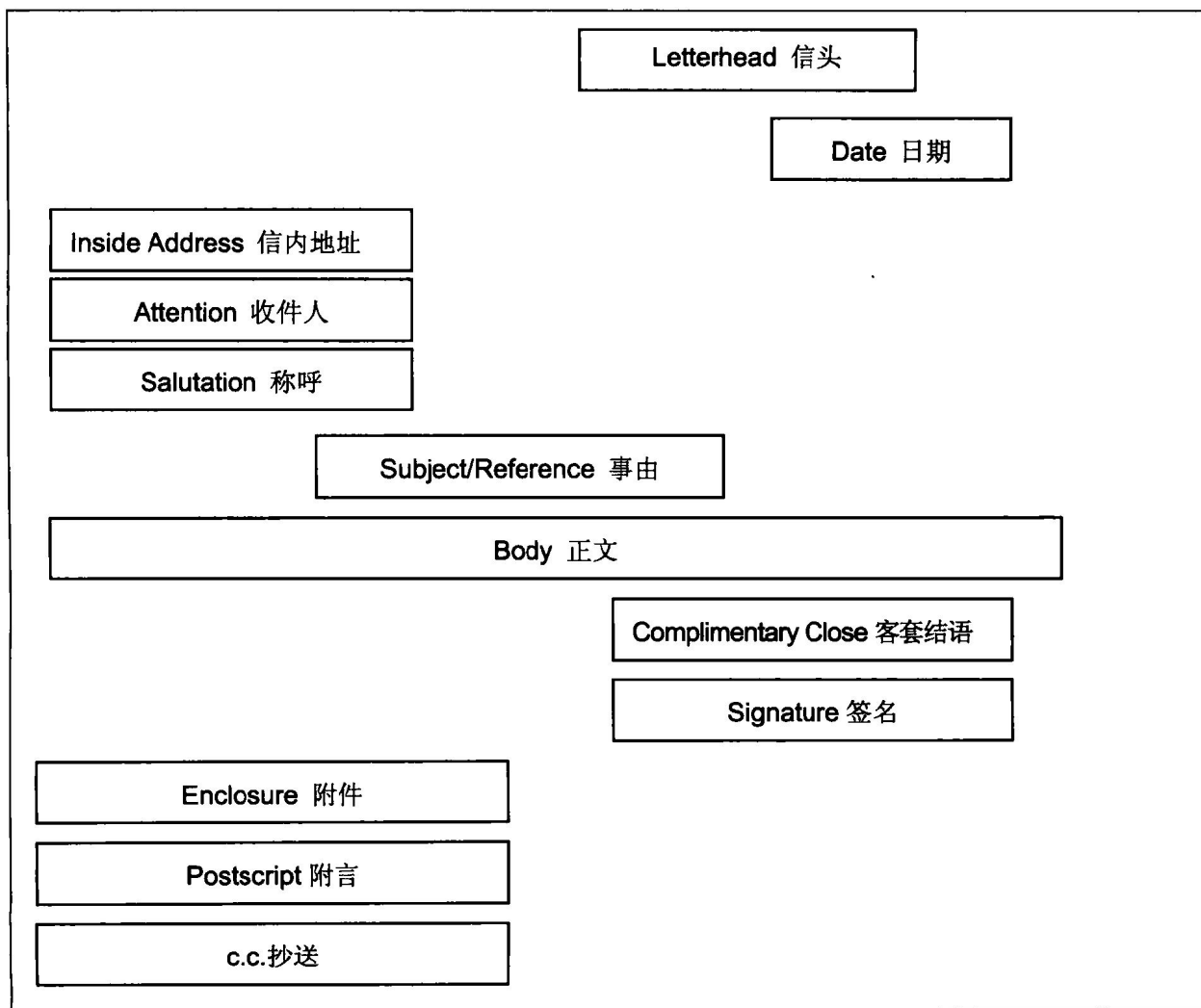
## Part 2

## Simulated Writing

## Commercial Correspondence

在现代涉外贸易中, 商业函件(Commercial Correspondence)是人们普遍采用的业务联络方式。商业函件属商业应用文, 其常用格式如下:

1) 组成部分: 信头(Letterhead)、日期(Date)、信内地址(Inside Address)、收件人(Attention)、称呼(Salutation)、事由(Subject or Reference)、正文(Body)、客套结语(Complimentary Close)、签名(Signature); 有时还包括: 附件(Enclosure)、附言(Postscript)、抄送(c.c.)等。如下图所示:





2) 格式 缩进式 齐头式和混合式 但实际上人们越来越倾向于摒弃前一种格式而采用后两种格式。

(1) **缩进式(Indented Style)** 信每段开头通常缩进 4 个字母 在地址等需要分行的地方 后行比前行缩进 2 至 3 个字母

### Sample Reading 1

**Clark & Sims Ltd.**  
**High Street, Ellingham, Suffolk**

June 24, 2001

Motorheat Ltd  
16 Walker Road  
Coventry 01545

Attn Sales Manager

Dear Sir

Re Inquiry About Car Heater

We are interested in increasing our range of car heaters and should like to receive information about the various models you are at present producing

We should be obliged if you would send us your latest catalogue and price list together with details of the CX4 heater advertised in the current issue of *MOTORING MONTHLY*

Yours Faithfully,

F Henley  
General Manager

### NOTES

attn (attention)	收信人
be obliged (to)	(对 )感激
catalogue /kætəlog/ n	(产品)目录册
current issue	最近的一期
details /diˈteɪlz/ n	详细资料
<i>MOTORING MONTHLY</i>	《汽车月刊》
price list	价目表

(2) **齐头式(Block Style)** 除信头外 信中所有内容均须从最左边开始 成一垂线, 即保持左对齐。



## Sample Reading 2

**Motorheat Ltd.**

16 Walker Road, Coventry 01545

General Manager  
Clark & Sims Ltd  
High Street, Ellingham, Suffolk

Attn Mr F Henley

June 28, 2001

Dear Sir,

Re Reply to Your Inquiry

Thank you for your letter of June 24, asking for details and prices of our car heaters

We have pleasure in enclosing our latest price list and catalogue together with details of Model CX4 Please do not hesitate to write if you require further information

Yours Faithfully,

Tom Harris  
Sales Manager

Encl

## NOTE

Encl (enclosure)

附件

(3) **混合式(Modified Style)** 整体布局与齐头式相似,但在信的内容中,每段的开头须缩进4个字母。

## Sample Reading 3

**Guangdong Machinery Import & Export Corporation**

61, Yanjiang Road (1), Guangzhou, China

Smith & Sons Co, Ltd  
No 1118 Green Road, Singapore

