

工程硕士研究生系列教材

英语 (教学用书)

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沈 毅 主编



English

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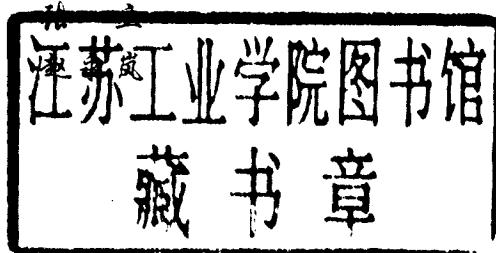
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序

近年来随着工程硕士专业学位的确立,工程硕士研究生的培养工作如雨后春笋般在全国广泛开展起来。工程硕士研究生的培养拓宽了国家培养高层次人才的渠道,加速工科研究生教育面向 21 世纪,促进科技、教育、经济紧密相结合,是解决企业高层次专门人才紧缺又长期得不到补充所采取的重大措施。工程硕士与工学硕士同处一个学位层次,各有侧重。工程硕士研究生既要有宽广的知识面、合理的知识结构,又要有能为企业解决实际问题的能力。工程硕士的课程设置要具有应用型、复合型和宽口径的特点,课程内容要具有宽广性和综合性的特点,并反映当代工程科学技术发展前沿。工程硕士的公共基础课程要为工程硕士的专业基础课、专业课的学习以及按工程领域完成与企业的生产实际相结合的学位论文所需要的基础知识打下坚实的基础。

工程硕士的课程建设是搞好工程研究生教学的重要环节,而工科工学硕士研究生的原有教材已不适应工程硕士的特点和要求,重庆大学是 1997 年首批全国开展培养工程硕士试点的学校之一,从 1999 年初开始,正式组织编辑出版以公共课为主的工程硕士生教材,以满足目前工程硕士公共课教学的需要。这套教材的作者都是多年从事研究生公共基础课程教学并多次到工程领域办学基地现场教学的教师。

这套教材着眼于工程硕士生后续课程的学习以及学位论文工作的最基本知识的需要,也考虑到工程硕士生毕业后在激烈的市场竞争中对必须的有关基础知识的需要。教材充分考虑到把工程硕士在工作中经常使用的公式图表以及相关知识作为附录供查,把一些重要的但理论性很强的内容编入教材供工程硕士生自学。

这套教材从编写大纲、教材初稿审查以及校对出版都经过认真细致工作,但由于工程硕士专业学位研究生的培养工作的时间还不长,对工程硕士的工程实际需要的调查还不够,编写如此重要的教材深感水平和经验之不足,故教材的缺点和错误在所难免,希望通过反复的教学实践,广泛听取校内外专家学者和使用本教材的教师及工程硕士生的意见,使其不断改进与完善。

全国工程硕士教育指导委员会委员



2000 年 1 月 21 日

前 言

《工程硕士研究生英语教程》是为攻读工程硕士专业学位人员编写的基础英语教材。根据教育部颁发的“非英语专业研究生英语教学大纲”的精神制定的对外语课程的要求,结合工程硕士研究生英语水平的实际而编写。本教材既强调词汇、语法等语言基础知识的复习、巩固和系统化,又注意培养学生应用英语获取信息的能力,突出读、写和英译汉的训练,兼顾听说练习,使学生在学完基础英语之后,具有扎实的语言基础知识和熟练运用英语进行学习和研究的能力,具有熟练的阅读能力,较强的翻译能力和初步的听说能力。为专业英语的学习和熟练地阅读有关专业书刊打下良好的基础。

本教材材料全部选自英语原版外国书刊或课本,题材广泛,内容新颖,语言规范,力求融思想性、科学性、知识性、时代性和趣味性于一体。

本教材的特色在于力求做到下面四个结合:

1. 英语知识与英语能力的结合:教材紧扣“非英语专业研究生英语教学大纲”,在注意打好语言基础的同时,适当加强实际使用英语能力的培养,以有利于学生的继续自学提高。

2. 读、译与听、说、写的结合:教材在突出阅读训练的基础上,注意译、写、听、说的综合训练。

3. 基础英语与专业英语的结合:教材内容将充实实用交际材料,使教学与实际应用更紧密地结合起来。

4. 英语能力发展与即期应用的结合:教材在侧重阅读基本技能训练和语法应用能力提高的同时,引入涉外交际资料的阅读、翻译和写作,突出工程硕士研究生在工作中应用英语的特点,使学生能学一点用一点,达到即期效果。

本教材编写人员及分工:统稿:沈毅;Unit 1~3:何高藻;Unit 4~6:张立;Unit 7~9:彭静;Unit 10~12:赵永岚;Unit 13~15:王道坤;辅助练习册:沈毅。

本教材在编写、出版过程中得到了重庆大学研究生院、重庆大学外国语学院及重庆大学出版社的大力支持。在此,我们表示衷心的感谢。

编 者

1999年10月

使用说明

本教材包含主教材和辅助练习册各一册。主教材包含十五个单元,每个单元包含一篇主课文,一篇副课文和若干会话。全书授课总学时为 180 学时。主课文为一般性题材,语言难度由易到难,循序渐进。在教师的帮助下,要求学生全面掌握课文内容,并对重点词汇能灵活运用。练习以词汇为中心,培养学生运用所学词汇的能力,并扩大词汇量。副课文结合工程硕士研究生的实际需要,重点选择了介绍当今社会、文化、经济、贸易、管理、科技等领域最新信息的文章,并系统全面介绍阅读技巧和写作技巧,主要用来扩大学生的阅读量和信息量,对内容只要求掌握中心思想和主要内容。练习重点培养学生的应用能力。会话以情景会话为线索,让学生熟悉并模仿在某种场合典型的英语表达,在此基础上发展一定的听说能力。全书听力部分将制作配套的磁带。

本教材的辅助练习册主要包括语法复习及配套练习和阅读理解练习。语法复习以帮助学生正确理解英语句子和用正确的英语句子清楚表达自己的意思为出发点,复习和归纳语法要点。阅读理解练习主要培养学生的阅读习惯,提高阅读技能和速度。根据学生的情况和教学的需要,教师可灵活掌握把辅助练习册用作课堂讲解或课外练习。

编 者

1999 年 10 月

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Unit One

Part A: Main Article

Communication

1 Telephone, television, radio, and the telegraph all help people communicate with each other. Because of these devices, ideas and news of events spread quickly all over the world. For example, within seconds, people can know the results of an election in Japan or Argentina. An international soccer match comes into the home of everyone with a television set. News of a disaster such as an earthquake or a flood can bring help from distant countries. Within hours, help is on the way. Because of modern technology like the four thousand satellites that travel around the world, information travels fast.

2 How has this speed of communication changed the world? To many people the world has become smaller. It means that the world seems smaller. Two hundred years ago, communication between the continents took a long time. All news was carried on ships that took weeks or even months to cross the oceans. In the seventeenth and eighteenth centuries, it took six weeks for news from Europe to reach the Americas. This time difference influenced people's actions. For example, one battle, or fight, in the War of 1812 between England and the United States could have been avoided. A peace agreement had already been signed. Peace was made in England, but the news of peace took six weeks to reach America. During this six weeks, the large and serious Battle of New Orleans was fought. Many people lost their lives after a peace treaty had been signed. They would not have died if news had come in time. In the past, communication took much more time than it does now. There was a good reason why the world seemed so much larger than it does today.

3 An important part of the history of the world is the history of communication. In prehistoric times, people had limited knowledge of the world. They had little information about geography, the study of the Earth. People knew very little beyond their small groups except what was happening near their homes. Later, people organized into villages, and verbal communication between little towns was possible. Still the people were limited because they had no outside information. Kingdoms and small countries then developed, with a king directing the people. Cities developed, too, but still communication was limited to the small geographical area of the country. Much later in history, after the invention of the printing press, many more people learned to read, and communication was improved.

4 In this modern age, communication is so fast that it is almost instant. People's lives have been changed because of the immediate spread of news. Sometimes the speed is so rapid that it does not allow people time to think. For example, leaders of countries have only minutes, or at most hours, to consider all the parts of a problem. They are expected to answer immediately. Once they had days and weeks to think before making decisions.

5 The speed of communication means that all people of the world have a new responsibility. People in different countries must try harder to understand each other. An example is that people with different religions must try to understand each other's beliefs and values even if they do not accept them. Sometimes their cultures are quite different. What one group considers a normal part of life is strange to another culture. In some cases, a normal part of one culture might be bad or impolite to the other people. That kind of difference is a possibility for misunderstanding. People must learn not to judge others, but to accept them as they are. Then understanding between cultures can be better. Misunderstanding can be avoided.

6 Misunderstandings as a result of the increase in rapidity of fast communication can cause serious problems. Therefore, communicating between or across cultures is important. Better cross-cultural communication is necessary for peace in the world. As the world grows smaller, people must learn to talk to each other better, not just faster.

Exercises

I. Reading comprehension.

A. Answer the following questions.

1. What are some examples of communication devices?
2. Why does the world seem smaller?
3. What new responsibility do people have because of the speed of communication?
4. The main idea of paragraph 6 is that _____.
 - a. misunderstandings can cause serious problems
 - b. people must learn to talk to each other faster
 - c. people need to talk better with each other
 - d. misunderstandings usually cause arguments

B. Are the following statements true or false?

1. The world is made up of many cultures.
2. People who do not judge other people can help to bring about understanding among the other countries of the world.
3. It is easy for people from different cultures to understand each other.
4. It is more difficult to be a leader of a country now than it was two centuries ago.

II. Vocabulary and structure.

A. Affix

Below are a list of some of the most commonly used prefixes, and suffixes. Try to keep them in mind. You will find them very useful in your reading and in your writing as well.

Please give more examples of the following affixes.

Affix	meaning	example
1. pre-	前, 领先	prehistoric
2. mis-	错, 坏	misunderstanding
3. -tion/-ion	名词	communication, decision
4. -ly	副词	quickly
5. -al	形容词	international

B. Fill in each blank with the correct word form.

1. to differ, different, difference, differently

- Let us just say that we don't agree and that we look at the world _____.
- This car is _____ from the one I drove yesterday.
- What's the _____ in temperature between the day and the night in the desert?
- I _____ from Mr. Smith about the way of solving the problem.

2. to invent, inventor, invention, inventive

- He had a very _____ mind.
- Alexander Graham Bell _____ the telephone in 1876.
- Can you tell us the names of some great _____ in this century?
- We know that the computer is one of the most important _____ of the 20th century.

C. Match the words in the left column with those similar in meaning in the right column.

- | | |
|-------------------|-----------------|
| 1. responsibility | a. anticipate |
| 2. distant | b. early enough |
| 3. grow | c. duty |
| 4. expect | d. rapidly |
| 5. in time | e. far away |
| 6. quickly | f. become |

D. Fill in the blanks with the following words.

1. because, because of

- The metal changed its shape _____ the high temperature.
- There are not any fish in the river _____ it is seriously polluted.
- I came back early not _____ the rain, but _____ I had an important appointment in the afternoon.

2. look, see, watch

- The students often _____ TV on the weekends.
- _____! There is a kite in the sky.
- I _____ for her but I couldn't _____ her in the crowd.
- She _____ the train till it was out of sight.
- I can't _____ through the hole in the door.
- Yesterday evening he went to the airport to _____ his friend off.

III. Translate the following sentences into English.

- 在许多人看来, 通讯技术的发展将改变人们的工作生活方式。

2. 由于计划生育的推广,中国的人口出生率大大下降了。
3. 因为光的传播速度比声音快,所以我们总是先看到闪电,后听到雷声。
4. 预计美国总统今年将访问中国。
5. 如果我早知道你的地址,一定会来拜访你的。

IV. Make sentences with the following expressions.

1. because of
2. to sb.
3. mean that ...
4. allow sb. to do sth.
5. It takes (took) sb. time to do sth.
6. sb. have time to do sth.

V. Topics for discussion or writing.

1. What are the effects of international communication?
2. My vision of the communication in the 21th century.

Part B: Supplementary Reading

Reading Skills: Vocabulary in Context

When you read in your language, you often come across words that are new to you. Do you look up all new words in a dictionary? Probably not. First, you try to guess the meaning of the word. Often, because of the other words around the new word, you can get an idea of the meaning of the new word. It is impossible for you to know the exact meaning of every word you read, but by developing your guessing ability, you will often be able to understand enough to arrive at the total meaning of a sentence, paragraph, or essay. Thus, you must try to improve your ability to guess the meaning of unfamiliar words by using context clues. Although there is no formula that you can memorize to improve your ability to guess the meaning of unfamiliar words, you should keep the following points in mind:

1. Use the meanings of the other words in the sentence (or paragraph) and the meaning of the sentence as a whole to reduce the number of possible meanings.
2. Use grammar and punctuation clues that point to the relationships among the various parts of the sentence.
3. Be content with a general idea about the unfamiliar word; the exact definition or synonym is not always necessary.
4. Learn to recognize situations in which it is not necessary to know the meaning of the word.

Practice

In the following exercise, do not try to learn the underlined words. Concentrate on developing your ability to guess the meaning of unfamiliar words by using context clues. Read each sentence carefully and write a definition, synonym, or description of the underlined word on the line provided.

1. The workers' lives were wretched; they worked from morning to night in all kinds of weather, earning only enough money to buy their simple food and cheap clothes.

2. In spite of the fact that the beautiful egret is in danger of dying out completely, many clothing manufacturers still offer handsome prices for their long, elegant tail feathers, which are used as decorations on ladies' hat.

3. The man thought that the children were defenseless, so he walked boldly up to the oldest and demanded money. Imagine his surprise when they began to pelt him with rocks.

4. Unlike her gregarious sister, Jane is a shy, unsociable person who does not like to go to parties or to make new friends.

5. After the accident, the ship went down so fast that we weren't able to salvage any of our personal belongings.

Text

The Next Step in the Communications Revolution

—different phones for different jobs

By Marci McDonald

1 Chirs Galvin, the CEO of US electronics and phone maker Motorola, settles into his chair at the company's Hong Kong offices and spreads an array of gadgets across the desk. His digital booty collection

includes mostly wireless phones in sizes ranging from pocket to penknife. Somewhere in the mix, says Galvin, is a phone for everyone.

2 In fact, more than one phone. Motorola and other major wireless phone makers now bank on each user buying two or more, in a market that industry watchers forecast will grow by 20 per cent a year until 2005. "For the next 10 to 15 years, it's just going to be a great business," says Galvin.

3 In the near term, he adds, users will want to have one or more mobile phones for different uses. But within two to five years, a looming explosion in demand for wireless Internet access will usher in a whole new generation series of communications tools.

4 Today, about 10 per cent of ordinary voice calls around the world are made using wireless telephones. Within 10 years, Galvin expects this figure to rise to around 50 per cent. This will probably happen relatively quickly in Asia, where many new consumers find it easier to get a wireless connection than a land line.

5 Nokia, a leading cellphone maker based in Finland, agrees that wireless phone systems will become as common as line-based ones. The company expects that by 2005 mobile users worldwide will total 1 billion—slightly more than the total number of fixed phone lines.

6 The immediate focus for manufacturers is designing phones for different uses, even for different times of the day. "We think people will be using a combination of mobile phones," says Galvin. The handset phone people use during their workday, he says, may have a host of advanced features—offering the performance of an electronic organizer for keeping track of people, phone numbers and schedules, while also allowing access to E-mail and the Internet.

7 During leisure hours, the period when people are not working, when users might only need to make voice calls, they might opt to carry a smaller, lighter phone that doesn't sport so many options.

8 They would use a single phone number, though, inserting their individual subscriber identity module—or SIM card (issued by a mobile-phone-service provider), into each phone, or by having multiple SIM cards with the same number.

9 Making phones smaller is easier than integrating advanced data capabilities and Internet access. That's why so many tiny phones, often smaller than a deck of cards and weighing under 150 grams, are already widely available. Nokia's sleek smooth, metallic shiny 8810 is a good example. This 100-gram silver phone looks like a flashy, undersized electric razor. Its sliding cover, though, reveals a phone equipped with built-in data capabilities and the latest technologies for improving call quality.

10 At a recent technology fair in Hanover, Germany, the three biggest manufacturers Motorola, Nokia and Sweden's Ericsson demonstrated their latest dual-band models, so called because they will work on both of the common frequencies in the Global System for Mobile—or GSM—networks, which are the most widespread in Asia and Europe.

11 Ericsson showed its tiny T18, which will pack features like voice-activated dialling and answering and a vibrating alert which slightly shakes when someone is calling into a 148-gram frame. Nokia demonstrated its 3210, which has an integral inside antenna to reduce bulk size, weighs 152 grams and will keep working for up to 10 days without recharging. Motorola also unveiled the world's smallest dualband GSM phone—its 87-gram v3688, about the size of a small candy bar.

12 The v3688 lies on Calvin's desk next to a new triple-band phone, the L7089, which is also able to access GSM networks in the United States that use a third frequency.

13 Calvin is confident these new designs will draw significant great interest in Asia, particularly in Hong Kong and Singapore, whose cellphone-toting masses are keen to adopt the latest consumer technology.

14 Now that people have caught on to using mobile phones for chatting, Calvin says the industry faces a new challenge: promoting wireless data applications. Mobile-phone makers believe that cellphone users will also want to turn to the Internet as a key information source. New phones—or what the industry refers to as “wireless information” devices—will be designed to maximize the Internet's potential. Nokia officials say that 10 to 15 per cent of all mobile phones sold within two years will have Internet browsing capability—a task job normally reserved for a computer with a much larger screen than a mobile phone.

15 Calvin says manufacturers have done a lot of work to try to make such pint-sized small browsers usable tools. Small phones' screens will probably impose limitations. For example, they might relay only short E-mail messages or access Internet services that use few graphics and small amounts of information. Users could tap into the Internet, buying or selling stock shares or reserving tickets for the opera at Web sites specifically designed for cellphone users.

16 Larger business-oriented phones used at work would have bigger screens—about the size of those found on electronic organizers—capable of displaying longer E-mail messages and accessing more complex Internet sites that feature larger graphics. Now developers are busy creating software that will allow cellphones access to the Internet without a traditional computer and keyboard.

17 In a move to dominate this nascent market, Motorola, Ericsson, and Nokia have teamed up in a joint venture called Symbian. It will work with Psion Software of Britain to research and develop new ways of using Psion's Epoc operating-system software in mobile phones, giving them Web-browsing capabilities.

18 The three cellphone makers have also agreed on a common technology for easing connections to the Internet, called the Wireless Application Protocol, or “WAP”. At the technology fair, Ericsson lifted the curtain on its R380 media phone: Due out next year, it will use both Epoc and WAP. Nokia plans to introduce its 7110 Communicator phone within a few months; it will be able to use WAP to surf the Internet.

19 Next year, Smar Tone in Hong Kong and KG Telecom of Taiwan will introduce high-speed wireless data access to their networks, making it quick and easy to browse the Internet. Service providers elsewhere in Asia are likely to follow suit.

20 With high-speed data transmission available to mobile-phone users, videophones that allow callers to view each other while they're talking may finally gain currency, too. After all, says Calvin: “People just love to communicate, and they'll keep finding new ways to do it.”

from the Far Eastern Economic Review

Exercises

I. Practise reading skills.

Try to guess the meanings of the following words by using context clues. Do not use a dictionary. Be prepared to discuss them in class.

1. CEO/array of gadgets / in the mix (par. 1)
2. bank on (par. 2)
3. usher in (par. 3)
4. a host of (par. 6)
5. sport (par. 7)
6. pack / unveil (par. 11)
7. toting (par. 13)
8. catch on to / reserved for (par. 14)
9. relay (par. 15)
10. nascent (par. 17)
11. Protocol/lift the curtain on (par. 18)
12. follow suit (par. 19)

II. Match the words in the left column with those similar in meaning in the right column.

- | | |
|------------------|--------------|
| 1. forecast | a. choice |
| 2. keep track of | b. eager |
| 3. opt | c. predict |
| 4. integrating | d. contact |
| 5. keen | e. combining |
| 6. option | f. choose |

III. Translate the following paragraphs into Chinese.

Paragraph 1

paragraph 14

IV. Topics for discussion.

1. What kind of communication is possible over the telephone?
2. Discuss different phones for different jobs.

Part C: Conversations

Greetings, Introductions, Partings

I. Sample conversations

A. Greetings

1. A: Good morning, Mr. Johnson.
B: Good morning.
2. A: Hello, Dr. Black.
B: Hello.
3. A: Hi, Peter.
B: Hi, Nancy.
4. A: Good afternoon, Prof. Brown. How are you?
B: Fine, thanks. And you?
A: Fine, thanks. It's a fine day, isn't it?
B: Yes. I hope it will stay for a few days.

B. Introductions

1. A: Mr. Smith, I'd like to introduce you to Mr. Zhang. He is the dean of our department.
B: How do you do, Mr. Zhang. Nice to meet you.
C: How do you do, Mr. Smith. Nice to meet you too. Welcome to our university.
2. A: Mary, this is Ms. Li. She is a good friend of mine.
B: Hello, Ms. Li.
C: Hello, Mary. Glad to meet you.
D: Me too.
3. Ladies and gentlemen, please allow me to introduce our speaker, Prof. Brown. He is an expert in computer science.
4. Introducing oneself
 - a. Let me introduce myself. I'm John Brown.
 - b. Good morning, everybody. I'm Zhang Qiang from Chongqing University.

C. Partings

1. Goodbye, Mr. Williams.
2. Have a nice evening.
3. See you later.
4. A: Good bye, Dr. Martin.
B: Good bye, Susan.