

工程硕士研究生 实用英语 教程

(第2版)

(教师用书)

Practical English for Master of Engineering

主 编 李京南 林 何
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工程硕士研究生 实用英语教程 (教师用书)(第2版)

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国防工业出版社

· 北京 ·

内 容 简 介

《工程硕士研究生实用英语教程(第2版)》在广泛听取使用《工程硕士研究生实用英语教程》的教师和学生的意见基础上,对原教材进行了修订。第2版保持原教材培养学生英语实际应用能力的编写目标,在教学材料的组织上进行了较大规模的调整,更换了一个单元主题,更换了五个单元的主要阅读材料,并对其他单元的学习材料、课后练习进行了适当的调整、删减和增补,使教材更贴近工程硕士研究生的实际需求,更具时代性、知识性和趣味性。

《工程硕士研究生实用英语教程(第2版)》由《学生用书》和《教师用书》两册组成。《学生用书》分为15个单元,每单元包含导入、快读、精读、实用写作、补充阅读、翻译技巧六个部分,内容涉及工程硕士研究生在实际工作中可能面对的技术、商务交往和管理等话题,内容丰富、选材新颖、语言难度适中、针对性强,适合工程硕士研究生的实际英语水平,符合工程硕士研究生的实际需求。《教师用书》按单元为各部分提供相关背景知识介绍、学习重难点辅导、教学活动建议、以及练习答案,既可作为教师教学的参考,也可供学生自学使用。

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前 言

全国工程硕士专业学位教育的发展对工程硕士研究生英语教学提出了新的要求。2006年修订的《全国工程硕士专业学位研究生英语教学要求》明确指出,工程硕士英语教学应兼顾工程硕士的实际需求和特殊的外语能力要求,应以英语的运用能力培养为主,应该将教学的重点由英语语言知识的培养转到英语技能的培养,特别是表达能力的培养。以此精神为指导,我们组织了一批长期从事工程硕士研究生英语教学,且教学经验丰富、教学效果良好的骨干教师,在广泛听取使用原教程的教师和学生意见的基础上,对原教材进行较大规模修改,编写了这本《工程硕士研究生实用英语教程(第2版)》。

《工程硕士研究生实用英语教程(第2版)》由《学生用书》和《教师用书》两册组成。《学生用书》分为15个单元,每单元包含导入、快读、精读、实用写作、补充阅读、翻译技巧六个部分,内容涉及工程硕士研究生在实际工作中可能面对的技术、商务交往和管理等话题,内容丰富、选材新颖、语言难度适中、针对性强,适合工程硕士研究生的实际英语水平,符合工程硕士研究生的实际需求。导入部分针对本单元话题基本词汇进行先期导入,同时进行相关听说练习;快读部分主要训练学生快速获得信息的能力;精读部分通过阅读和练习强化语言能力;写作部分学习一种实用的写作体裁;补充阅读进一步强化学生阅读能力,扩大本单元相关词汇量;翻译部分通过实例和练习培养学生实用翻译能力。

《教师用书》按单元为各部分提供相关背景知识介绍、学习重难点辅导、教学活动建议、以及练习答案,既可作为教师教学的参考,也可供学生自学使用。

《工程硕士研究生实用英语教程(第2版)》配有相应的音频资料、教学课件和测试题库,可以最大限度地方便教师教学。具体资料可从出版社网站 www.ndip.cn 下载。

《工程硕士研究生实用英语教程(第2版)》的编写出版得到电子科技大学研究生院的大力支持,外籍专家 Robert Biggs 和 Geesunshin 审阅了本教材部分文稿并为本书录制了音频,电子科技大学外国语学院的部分教师在工程硕士英语教学中试用了本教材并提出宝贵意见,特此致谢!由于编者水平有限,疏漏之处在所难免,我们真心希望广大师生给予宝贵的意见和建议,以便今后改进。

编 者
2012年6月

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INTRODUCING SOMEONE

Warming-up



A. Key: 1. h. 2. a. 3. d. 4. i. 5. c. 6. j. 7. g. 8. f. 9. b. 10. e.

B. CV and résumé (履历和简历):

A résumé or CV contains a summary or listing of relevant job experience and education. They are often used by potential employers to screen job applicants. There are several differences between a CV and a résumé.

1. A CV is usually longer, often several pages. A résumé is short and in many cases, a one pager is recommended.
2. A CV is more descriptive, with more details, and focuses more on academic achievements. A résumé skims the surface.
3. A CV is often used when applying for academic or research positions. A résumé is used in a wide variety of situations — job applications, college admissions. . .

Reference key: basic information, education background, working experience, software skills, . . .



C. Script

My name is John Smith. I am an experienced engineer in computer Hardware and Networking. I am certified from Novell Inc. USA in Networking Technologies. Now, I am looking for a suitable opening in Beijing. If you are an interested employer, please contact me at johnsmith@yahoo.com, that is , j-o-h-n-s-m-i-t-h, at yahoo.com, or call me at 19864386275. I am immediately available for work in Beijing.

D. The following questions about John's message can be asked before the speaking activity:

What did John include in this message?

What didn't he include?

Why did he do so?

The following guide can be provided:

My name is _____. I am a _____. I am working for _____. I got my BA / BS in _____ from _____. My current job is to _____.

Fast Reading



Teaching tips: The following questions can be asked before checking students' answers.

1. Who wrote this letter? To Whom? For what?
2. Which industry is the writer in? Which company is he currently working for? Why does he want to leave the company?
3. What kind of company is the writer applying for? What kind of position is he interested in?
4. What do you learn about the writer's educational background and work experience? Is he qualified for the job he is applying for?

Reference key:

1. The letter is written by R. Hood, who wants to apply for the position of Advertising Manager.
2. The letter is written to Mr. D. Fine, who is the Corporate Manager of Prettygood PLC.
3. In order to show his qualification, the writer sent his CV, application form, and the required information together with the letter.
4. The writer is currently working for Ajax Windows Inc as Senior Vice President.
5. The writer wants to leave the company for both personal and career reasons.
6. The writer highlights two points of his qualification. First he has 11 years experience in the advertising industry. Second, he has done some successful independent advertising work.

Intensive Reading



Background Information

This self-introduction is from NASA's website, which aims at the general public to provide information about its programs. As a crew member of NEMO 6, the author Tara Ruttlely tells us how she came to work for NASA, what kind of work she does, providing a general profile of an NASA engineer.

Language Points

Paragraph 1

1. ... and I am the Lead Hardware Engineer for the Health Maintenance System that's up on the International Space Station (ISS).

Vocabulary

Lead Hardware Engineer 首席硬件工程师

maintenance: *n.* the process of maintaining or being maintained

maintain: *v.* cause or enable to continue; keep in good condition by checking or repairing it regularly

e. g. Mankind have been trying every means to maintain the balance of nature.

人类采用一切手段保持生态平衡。

The car has to be constantly maintained.

汽车必须经常保养。

The machinery requires constant maintenance.

这些机器需要经常保养维修。

International Space Station (ISS): the largest manmade satellite ever launched into Earth orbit. It is a joint project among the space agencies of the US, Russia, Japan, Canada and ten European nations. Since its launch, ISS has served as a research laboratory in space.

2. In other words, I lead a team of engineers whose job it is to provide reliable medical equipment that will keep the astronauts healthy on orbit!

Vocabulary

reliable: *adj.* able to be relied on

rely: *v.* depend on with full trust

e. g. They have to rely on the river for their water.

他们用水只好依靠这条河。

In respect of financial standing, this firm is reliable.

在资信方面, 这家商行还是很可靠的。

Translation

也就是说, 我带领一队工程师专门负责提供可靠的医疗设备, 以使空中的航天员保持健康。

Structure

I lead a team of engineers whose job it is to provide ... = ① + ②

① I lead a team of engineers.

② It is their job to provide ...

e. g. ① I also met some journalists on the site.

② It is the journalists job to provide information to others.

① + ② I also met on the site some journalists whose job it is to provide information to others.

3. I was born in Houma, Louisiana and raised in Lafayette, LA before obtaining a BS degree in Biology and an MS in Mechanical Engineering, emphasis in Biomedical Engineering from Colorado State University (CSU).

Vocabulary

LA: Louisiana, a southern state of the USA 路易斯安那州

Colorado: a western state of the USA 科罗拉多州

BS: Bachelor of Science 科学学士

MS: Master of Science 科学硕士

obtain: *v.* get

e. g. Further information can be obtained from our head office.

详细的资料可从我们总部得到。

Translation

我生在路易斯安那州的侯马,长在路易斯安那州的拉斐特,后来到科罗拉多州立大学求学,获生物科学学士和机械工程硕士学位,硕士的研究方向是生物医学工程。

4. I am also currently pursuing a PhD in Neuroscience (expected 2006) from University of Texas Medical Branch.

Vocabulary

pursue: *v.* follow in order to catch or attack; seek to attain

e. g. She is pursuing her studies at the university.

她在大学继续深造。

The government is pursuing a policy of non-intervention.

政府正奉行不干预政策。

PhD: Doctor of Philosophy 博士

Translation

我现在正在德克萨斯大学医学院攻读神经科学博士,预计2006年获得学位。

5. I came to work for NASA in Jan 2001, where I began my career as a project engineer for the exercise bicycle that's currently on the ISS.

Background Information

NASA: The National Aeronautics and Space Administration (NASA) is an American government agency which runs the civilian arm of the space program. The aim of NASA is to increase human understanding of the solar system and the universe that contains it, and to improve American aeronautics ability. (<http://www.wisegeek.com/what-is-nasa.htm>)

Translation

我2001年1月来到美国航空航天局工作,刚开始是做健身自行车项目工程师,现在这种车正用于国际空间站。

6. I've always wanted to work for the US Space Program, particularly for the Johnson Space Center, where the focus is on human presence in space and manned missions.

Background Information

Johnson Space Center: Established in September 1961, Johnson Space Center is NASA's primary center for the design, development and testing of spacecraft and associated systems for human flight. It is also the center for the selection and training of astronauts, planning and conducting human space flight missions, and extensive participation in the medical, engineering scientific experiments carried aboard space flights.

Translation

我一直想为美国的航空事业效力,尤其是到约翰逊宇航中心工作,在那里人们致力于研究人类太空生存以及载人航天的问题。

7. ... I began heading for a career in Life Sciences.

Vocabulary

head for: to go or travel towards

e. g. After the play we all headed for the bar.

看完戏后我们全都去了酒吧。

I'm afraid the company is heading for a smash.

恐怕这家公司就要破产了。

8. There is something very unique about the microgravity environment that causes distinct changes in human physiology from the systems level, all the way down to the cellular level.

Vocabulary

unique: *adj.* being the only one of its kind; unlike anything else; remarkable or unusual

e. g. There was something unique about the new theories.

这些新理论有独特之处。

It must have been a unique moment in Latin American history.

在拉丁美洲史上,这必定会是个空前的时刻。

distinct: *adj.* recognizably different or individual

e. g. We should preserve the distinct identities of the old town.

我们应该保留古镇的特有风貌。

There is a distinct smell of oranges in this room!

这个房间里有明显的橘子味。

Translation

微重力环境有种很独特的力量,能导致人类生理系统的明显改变,这种改变一直深入到细胞结构。

9. ... our very body designs are a direct result of our development in a 1-G gravity environment ...

Vocabulary

very: *adj.* used as an intensifier here

e. g. You are the very man I'm looking for.

你正是我要找的人。

Translation

我们人体本身的构造就是我们在 1-G 重力环境下进化的直接结果。

10. how thought-provoking!

Vocabulary

thought-provoking: stimulating to think 发人深省的

provoke: *v.* stimulate or cause (a strong or unwelcome reaction or emotion) in someone; deliberately annoy or anger

e. g. Don't throw one bone to two dogs; you'll only provoke a fight.

不要把这块骨头扔给那两只狗,那样你会引起一场争斗。

Stars grace our night sky and provoke our sense of wonder.

星星点缀夜空更引起人们无边的遐想。

Paragraph 2

11. ... I became involved with the Colorado Space Grant Consortium ... in the hardware aspects of maintaining optimal crew health in space.

Vocabulary

involve: *v.* include as a necessary part or result; cause to experience or participate in an activity or situation

e. g. Painting the room involved moving out the piano.

粉刷房间就要把钢琴搬出去。

How should we involve ourselves in school life?

我们应该怎样投入学校生活?

be involved with: become connected with

e. g. You should list out those who are involved with the project together with their contact.

你应该列出此项目相关人员名单以及他们的联系方式。

Is he involved with the woman?

他和那女的有关系吗?

optimal: *adj.* most desirable

e. g. However, they do need to be placed in an optimal location to be obviously visible.

然而它们应该放在显眼的最佳位置。

The optimal systems differ according to the criterion chosen.

按照所用准则之不同,最佳化系统便不同。

12. There are so many design challenges that are unique to spaceflight when considering hardware that should be used to keep crewmembers in top shape on orbit, such as minimizing noise from the hardware, limiting vibration (if any) from the hardware, designing it to withstand certain radiation levels, and just designing the equipment to be easy to use in a microgravity environment, when things usually tend to "float away" from you.

Vocabulary

keep ... in shape: keep ... in good condition

e. g. I go to the gym to keep my body in shape.

我去体育馆为了保持身体的健康。

Keep your shoes in shape.

别使你的鞋走样。

minimize: *v.* reduce to the smallest possible amount or degree

e. g. To minimize this cost, authority should be decentralized wherever feasible.

为了减少这方面的损失,应尽可能分散职权。

A sound approach to the problem is to minimize the number of parts.

正确解决这一问题的方法是把零件的数目减至最少。

Translation

要为太空飞行设计特殊设备,帮助航天员在飞行中保持最佳状态,就要面对众多挑战,例如减少设备噪声、限制设备震动(如果有震动的话)等,另外设备还要设计得能承受一定的辐射水平。仅仅是设计设备,使它在微重力的环境汇中易于使用就是件难事,因为东西常常都会从你身边“飘离”。

13. I soon began to realize the importance of an interdisciplinary approach to designing hardware for crew health, so I pursued my Master's Degree in Mechanical Engineering, where my thesis was the testing of a novel gravity-independent resistive exercise device.

Vocabulary

novel: *adj.* interestingly new or unusual

e. g. We are supposed to dress up as movie characters for the party, what a novel idea!

我们在晚会上要装扮得像电影中的角色,这是一个多么新奇的主意啊!

In consequence, many novel features presented themselves.

结果许多新奇的特点出现了。

resistive: *adj.* able to resist something

Translation

我很快就开始意识到为航天员设计健康器械时运用跨学科方法的重要性,所以我继续深造,获得机械工程的硕士学位,我的硕士论文是关于一种新的、不依赖重力的阻力健身器的测试。

Paragraph 3

14. To top it all off, NASA has recognized the importance of a commitment to education, and has supported my journey in obtaining my PhD in Neuroscience for the past 2 years.

Vocabulary

recognize: *v.* identify as already known; acknowledge the existence, validity, or legality of; show official appreciation of

e. g. He walked along in the shadows hoping no one would recognize him.

他走在暗处,希望没有人认出他来。

The firm recognized Tom's outstanding work by giving him an extra bonus.

公司发给汤姆一笔额外奖金以表彰他工作出色。

commitment: *n.* dedication to a cause or policy; a pledge or undertaking

e. g. His political commitment is only skin-deep.

他政治上的承诺只是表面文章。

Thanks for your commitment to our company's growth and for your support for this exciting new program.

承蒙你对我们公司成长的帮助和你对这个振奋人心的新程序的支持,不胜感谢。

Translation

最重要的是, NASA 意识到了教育的重要性, 过去两年一直支持我攻读神经科学博士。

15. My job here is pretty incredible!

Vocabulary

incredible: *adj.* impossible or hard to believe

e. g. His story sounds incredible.

他的故事听起来难以使人置信。

He demonstrated incredible physical strength.

他表现出令人难认置信的体力。

16. I'm never bored since I interact daily with other engineers ...

Vocabulary

interact: *v.* act so as to have a reciprocal effect

e. g. All things are interrelated and interact on each other.

一切事物互相联系并互相作用。

This is usually the best way to understand how users relate to and interact with products.

这通常是理解用户如何与产品交互和联系的最好方式。

Paragraph 4

17. ... or learning new swim skills for this NEEMO mission.

Background Information

NEEMO: NASA's Extreme Environment Mission Operations Program. It is a NASA program for studying human survival in the Aquarius underwater laboratory in preparation for future space exploration.

Key to Exercises

Comprehension

I. Reference key:

1. She wanted to introduce her job and herself to the general public.
2. Because she is interested in human presence in space.
3. Her job is to provide reliable medical equipment that will keep the astronauts healthy on orbit.
4. She has worked on exercise bicycle for ISS and a gravity-independent "weight lifting" exercise device.
5. She enjoys her life with NASA because she can practice everything she learnt in school; she

seems to have a good pay; NASA supports her PhD study; she likes to work with her team to accomplish her mission objectives; ...

Vocabulary

II. Teaching tips: suffixes can be studied before this exercise. For example; rely → reliable, obtain → obtainable, recognize → recognizable; participation, vibration, interaction, minimization; involvement; pursuit ...

Key:

- | | | | | |
|----------------|----------------|----------------|-------------|---------------|
| 1. reliable | 2. obtain | 3. participate | 4. minimize | 5. recognized |
| 6. interaction | 7. maintenance | 8. pursue | 9. provoked | 10. involved |

III. Key:

- | | | | | |
|------------------|---------------|----------------|--------------------------|----------------|
| 1. optimal | 2. recognized | 3. challenging | 4. does tend to/tends to | 5. vibrating |
| 6. keep in shape | 7. unique | 8. distinct | 9. novel | 10. incredible |

Cloze

IV. Key: ADABC CDCCC

Translation

V. Reference key:

1. 也就是说,我带领一队工程师专门负责提供可靠的医疗设备,以使空中的航天员保持健康。
2. 我 2001 年 1 月来到美国航空航天局工作,刚开始是做健身自行车项目工程师,现在这种车正用于国际空间站。
3. 我一直想为美国的航空事业效力,尤其是到约翰逊宇航中心工作,在那里人们致力于研究人类太空生存以及载人航天的问题。
4. 微重力环境有种很独特的力量,能导致人类生理系统的明显改变,这种改变一直深入到细胞结构。
5. 要为太空飞行设计特殊设备,帮助航天员在飞行中保持最佳状态,就要面对众多挑战,例如减少设备噪声、限制设备震动(如果有震动的话)等,另外设备还要设计得能承受一定的辐射水平。仅仅是设计设备,使它在微重力的环境汇中易于使用就是件难事,因为东西常常都会从你身边“飘离”。
6. 更令人激动的是我们如何能将这此硬件设计应用于地球环境,如理疗诊所和医院。
7. 我很快就开始意识到为航天员设计健康器械时运用跨学科方法的重要性,所以我继续深造,获得机械工程的硕士学位,我的硕士论文是关于一种新的、不依赖重力的阻力健身器的测试。
8. 我很兴奋,一毕业就获得了来生物医疗系统部工作的机会,在这里,我能实践在学校里所学到的一切,将工程与科学结合,推进美国航天事业的目标。

9. 我工作中最激动的时刻是当我们的团队成功解决了太空中的设备故障,让设备恢复到最佳运行状态时。

10. 我盼望着能和我的团队一起在这独特的环境中完成任务目标,挑战自我。

VI. Reference key:

1. We need to hire someone whose job it is to handle the security of the network.
2. I've always wanted to work for NOKIA, where the focus is on the application of the latest technology in mobile phones.
3. I came to work for HP in Feb. 2005, where I began my career as a technical support assistant.
4. I am really excited to be offered the position here in the Marketing Department that allows me to practice everything I know about selling.
5. I'm most excited at work when I have successfully solved the malfunction of the system in a way that can return the system to its best performance.
6. There is something very unique about the new strategy that causes distinct changes in the company.
7. The reform is complete, all the way down to the teams in each department.
8. I've taken on too many commitments recently.
9. He did everything he could to keep the car in good shape.
10. What he said is really thought-provoking.

Writing



Teaching tips: Some job ads can be provided by the teacher based on the field that most students are in.

Supplementary Reading



Teaching tips:

Introducing a speaker is an important skill in our professional and personal lives. An introduction is a mini-speech that tells why the speaker is credible to speak on the subject that's important to the audience. A good introduction can gain the audience's attention, and motivate the audience to listen. The passage in this section is the introduction to Randy Pausch given by his friend and colleague Steve Seabolt at the beginning of his lecture at Carnegie Mellon University.

Background Information:

Randy Pausch was a late American professor of computer science and human-computer interaction and design at Carnegie Mellon University. After he was given a terminal diagnosis of pancreatic cancer, he gave a lecture at CMU titled "The Last Lecture: Really Achieving Your Childhood Dreams". The upbeat lecture soon became a popular YouTube video and led to other media appearances. For more information about Randy Pausch and his last lecture, visit:

<http://www.cs.cmu.edu/~pausch/>

<http://www.thelastlecture.com/index.htm>

Key: BBDAC

Translation



Reference key:

1. 缺乏长远计划的人必将后悔自己所做的事。
2. 他掉了学生证,现在麻烦了。
3. 李和他的经理针锋相对,相互指责。
4. 我不想依靠父母过日子。
5. 衣着朴实行为收敛,是犹太教所信奉的。
6. If he were to find out the truth, he would be simply stunned.
7. It's quite possible that you will win in the match, but don't count your chickens before they are hatched.
8. Betty's mind was in a turmoil these days and she was quite unable to think straight.
9. He was horror-stricken when hearing the cries of the wolves at midnight.
10. She is a kind of person who always avoids any conversation over trifling matters.

Unit 2

TALKING ABOUT A COMPANY

Warming-up



A. Key:

a state-owned enterprise
a private enterprise
a joint venture
a foreign capital enterprise
qualification
location
size
headquarters

producer/manufacturer
supplier
outsource
market leader
technologically excellent
international competition
industry



C. Script

Huawei Technologies Co., Ltd. is a leading, global provider of next-generation, fixed mobile convergence and end-to-end wireless technology. Improving capacity, efficiency and costs, Huawei fulfills the needs of 70% of the world's top 50 operators and over one billion users.

With more than 43% of almost 87,502 worldwide employees dedicated to R&D, Huawei has proven an ongoing commitment to providing innovative and customized products, services and solutions — creating long-term value, distinction and growth potential for all customers.

Fast Reading



Key:

1. The author lists out 4 reasons; to attract customers or supporters; to get media attention; to acquire financing; to attract the best candidates.
2. The three steps are; Provide useful information in lay person's terminology; Infuse some personality; Claim your unique assets.
3. Key personnel, descriptions of the company's products or services.
4. Easy-to-comprehend expressions.
5. To attract clients who are right for the company.
6. By adding something special the company has.