

全国高职高专建筑类专业规划教材

TUJIAN YINGYU JICHU JIAOCHENG

土建英语 基础教程

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黄河水利出版社

全国高职高专建筑类专业规划教材

English for Civil Engineering Majors of Higher Vocational Colleges

土建英语基础教程

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内 容 提 要

本书是全国高职高专建筑类专业规划教材,是根据教育部对高职高专教育的教学基本要求及全国水利水电高职教研会制定的土建英语基础教程课程标准编写完成的。本书共设计有16个单元,涵盖土建学科主要分支。每单元设计5个模块、10个学习任务,学习任务围绕读、译、说、写、听等综合能力训练目标展开。单元第一模块为 Warming-up,包括图片描述、问题回答、词库建设3个学习任务;第二模块为 Reading A,包括一篇精读课文、注释及词语搭配、回答问题、汉英互译3个学习任务;第三模块为 Reading B,包括一篇泛读课文、注释、生词及正误判断、选择2个学习任务;第四模块为 Reading C,包括一篇速读课文及生词;第五模块为 Presentation,包括情景对话/PPT展示、书面报告2个学习任务。本书旨在培养学生阅读和翻译难度适宜的专业文章的能力,使其能熟悉并掌握一部分土建专业英语常用词语,能用简单的土建专业词语进行口语展示或交流,为今后更好地从事本专业的工作打下良好的基础。

本书可供高职高专院校建筑、交通、水利等土木类专业教学使用,也可供相关专业工程技术人员学习参考。

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前 言

本书是根据《教育部关于全面提高高等职业教育教学质量的若干意见》(教高[2006]16号)、《教育部关于推进高等职业教育改革创新引领职业教育科学发展的若干意见》(教职成[2011]12号)等文件精神,由全国水利水电高职教研会拟定教材编写规划,在中国水利教育协会指导下,由全国水利水电高职教研会组织编写的建筑类专业规划教材。该套规划教材是在近年来我国高职高专院校专业建设和课程改革不断深化和探索的基础上组织编写的,内容上力求体现高职教育理念,注重对学生应用能力和实践能力的培养;形式上力求做到基于工作任务和工作过程编写,便于“教、学、练、做”一体化。该套规划教材是一套理论联系实际、教学面向生产的高职高专教育精品规划教材。

基于高职高专教学的基本指导思想:“以就业为导向,以任务引领、项目主导,体现岗位技能要求、促进学生实践操作能力培养”,高职高专院校专业英语教材建设的内容与形式必须突出能力培养。因此,教材的编写应很好地把语言与相关专业知识衔接起来,语言难度应适中,既要涉及专业英语语言本身的词汇、句法的练习,也应包括专业知识内容方面的练习,还应该把学生英语水平的提高、专业知识的学习与专业英语表达训练科学、有效地结合起来。《土建英语基础教程》努力顺应了这一要求。

本书的编写目的:

- (1)使学生初步接触土建英语方面的文章,初步了解土建英语的特点;
- (2)使学生熟悉并掌握一部分土建专业英语常用词语;
- (3)使学生熟悉典型的土建英语句型、文体,读懂难度适宜的专业文章;
- (4)使学生能运用一些翻译技巧翻译难度适宜的专业句子或文章片段;
- (5)使学生能使用简单的土建专业词语进行口语展示或交流。

本书的编写体例:

本书共16个单元,每个单元都有一个主题,涵盖土建学科主要分支。每单元设计5个模块、10个学习任务,学习任务围绕读、译、说、听等综合能力训练目标展开。每单元有三篇文章:Reading A为精读材料,Reading B为泛读材料,课文后有注解,并配有针对性较强的学习任务;Reading C为速读材料,配有生词注解。此外,还有对应的参考译文和答案,便于学生自学。

本书的主要特点:

(1)体现“高职”特色,融“教、学、练、做”于一体。针对高职学生的基础水平和学习风格,以全新的体例设计单元,充分体现以学生为中心的教学理念并契合项目教学模式。

(2)体现“基础”特色,注意难度控制。选材时对课文长度及生词量按照高职学生的接受能力进行了严格控制,强调科普性,兼顾趣味性,按照循序渐进的原则安排学习内容,

尽量避免出现专业性太强、专业词汇过多的材料。

(3)体现“教程”特色,强调讲、练结合。英语教材不是一般的读物,必须重视综合训练,必须注重启发学习者的参与意识。本书设计的各种学习任务,鼓励学生自我发现、自我评价,调动学生挑战自我的意识。本书还使用了大量图片,力求做到图文并茂、编排新颖,有利于激发学生的学习兴趣。

本书编写人员及编写分工如下:山东水利职业学院孔娟编写单元1、2,山东水利职业学院来守霞编写单元3、16,山东水利职业学院郁文编写单元4、5、12,山东水利职业学院李晓冉编写单元6、7、9,安徽水利水电职业技术学院翟洁编写单元8、11、13,安徽水利水电职业技术学院席绪云编写单元10、14、15,辽宁水利职业学院郭秀梅编写1~16单元的练习9。本书由孔娟担任主编并对全书统稿,由翟洁、李晓冉、郁文、席绪云、来守霞、郭秀梅担任副主编,由安徽水利水电职业技术学院赵品北担任主审。

本书的编写还得到了中国水利教育协会职教分会的大力支持,黄河水利出版社也专门为该系列教材召开了编审推介会,与会的各位专家对教材给予肯定,同时提出了一些宝贵的修改建议,在此一并致谢!

另外,山东水利职业学院建筑工程系的张伟老师和环境工程系的宿翠霞老师从专业角度对译文进行了细致修改,谨致谢忱!

在编写过程中,我们参考了一些土建专业英语教材以及网络上搜索到的最新素材,从中汲取了很多有益的营养,限于篇幅,不一一列出。对著者,我们深表谢意!

本书是高职院校土建类专业英语教学改革的一次尝试,不足之处在所难免,欢迎专家、教师及广大同学指正。

编 者

2013年3月

使用说明

《土建英语基础教程》是专门为高职高专院校土建类专业学生编写的专业英语入门教材。

该教材共 16 个单元,每单元分 5 个模块,10 个学习任务(练习)。

第一模块为 Warming-up,包括 3 个学习任务。任务 1 要求对图片进行研究、讨论并简要说明含义,旨在训练学生的观察、分析和口头表达能力;任务 2 要求就单元主题谈谈自己的认识并回答两个问题,该问题能启发学生思考,同时为学习课文做准备,训练学生的沟通、理解与表达能力;任务 3 要求学生在学习每单元第一篇课文之前把生词查找出来并记录在自己的词库当中。一方面是考虑到学生的词汇量因人而异,另一方面是为了培养学生查词并正确选择词义的能力。

第二模块为 Reading A,包括课文、注释及 3 个学习任务。课文为精读课文;注释着重句子翻译与结构分析,特别是复合句与非谓语动词;任务 4 旨在训练学生对专业词语的记忆能力;任务 5 要求学生根据课文给出答案,目的是训练学生的阅读理解能力;任务 6 重点训练学生的翻译能力,句子一般来自课文,但经适当改编,侧重检查专业词语及常用的句子结构。

第三模块为 Reading B,包括课文、注释、生词及 2 个学习任务。该课文为泛读课文,侧重训练学生的阅读理解能力,任务 7 要求学生根据课文内容判断正误,任务 8 采用了考试中最常用的阅读理解题型——选择题,使学生进一步加深对课文的理解。生词按传统的方式提供。考虑到学生学习方便,每单元提供的生词允许重复。

第四模块为 Reading C,包括课文及生词。课文为训练学生的快速阅读能力而准备,所以生词安排在文章右侧,便于学生速读时同步查阅。

第五模块是 Presentation,包括 2 个学习任务。任务 9 要求学生根据工作情景设计对话并表演出来,旨在训练学生的口头表达能力,或者就某些主题设计 PPT,以提高信息搜集与归纳的能力;任务 10 要求学生把自己的学习成果向全班同学进行口头或书面展示,目的在于训练学生的总结、写作与表达能力,同时为教师评价学生的学习成果提供依据。

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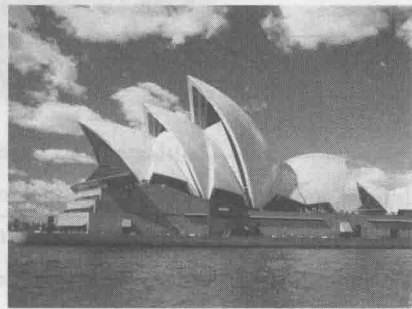
Unit 1 Civil Engineering

Warming-up

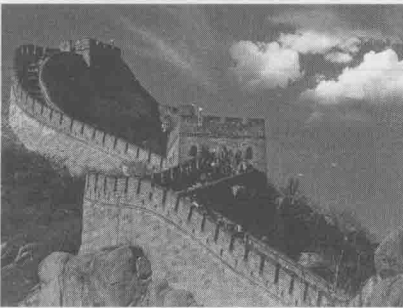
Task 1 Study the following pictures and tell the names of the buildings.



1. _____



2. _____



3. _____



4. _____

Task 2 Share your beliefs with your partner about civil engineering.

Question 1 What do you know about civil engineering?

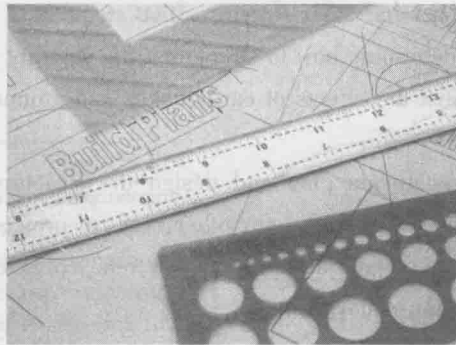
Question 2 What should you do to be a good civil engineer?

My Word Bank

[illegible]

Reading A

What is Civil Engineering?



Civil engineering, the oldest of the engineering specialties, is the planning, design, construction and management of the built environment. Civil engineers design, build, operate and maintain the structures and infrastructure that forms our modern society. These facilities include buildings, bridges, highways, water supply systems, environmental protection systems, ports, railroads, dams, flood control works, airports and many others.

Because it is so broad, civil engineering is subdivided into a number of technical specialties.

Construction Engineering

Civil engineers in this field oversee the construction of a project. As project engineers, they apply both technical and managerial skills, including the knowledge of construction methods, planning, organizing, financing, and operating construction projects.

Environmental Engineering

Environmental engineering focuses on engineering works that clean and protect the environment. These projects can include designing facilities to safely handle solid waste, industrial waste, or municipal wastewater. They can also include identifying and remediating existing pollution, such as underground contaminant. It is said that civil engineers have saved more lives than doctors and much of this benefit has come from environmental engineering.

Engineering Management

Engineering management includes leading, coordinating, overseeing and other similar management activities applied to engineering projects. Engineering managers typically have an undergraduate degree in engineering, with additional education or experience in management.

Geospatial Engineering

Geospatial engineering includes surveying, mapping, remote sensing and other similar activities. Geospatial engineers use precise global positioning system (GPS) receivers to establish horizontal and vertical coordinates. They also participate in the design and implementation of

geographical information systems (GIS), which are geographically-based computer databases.

Geotechnical Engineering

Civil engineers who specialize in this field analyze the properties of soils and rocks that support structures and affect structural behavior. They evaluate and work to minimize the potential settlement of buildings and other structures that stems from the gravity pressure. These engineers also evaluate and determine how to strengthen the stability of slopes and fills and how to protect the structures against the effects of earthquakes and groundwater.

Structural Engineering

In this specialty, civil engineers plan and design the structures of all types, including bridges, towers, dams, power plants and many other kinds of projects. They also determine the combined action of appropriate materials, steel, concrete, plastic, stone, asphalt, brick, aluminum, or other construction materials.

Transportation Engineering

Civil engineers in this specialty build facilities to ensure the safe and efficient movement of both people and goods. They specialize in designing and maintaining all types of transportation facilities, such as highways and streets, mass transit systems, railroads and airfields, ports and harbors, etc.

Water Conservancy Engineering

Water conservancy engineering includes various civil engineering projects providing safe drinking water and flood control works. These projects include aqueducts, pipelines, water treatment plants, dams, levees and other similar works. Water shortages are becoming an ever-growing concern as the world's population continues to grow. The implementation of desalinization plants, more efficient water usage and new water distribution facilities are some of the solutions to the problem.

(484 words)

Notes

1. Civil engineers design, build, operate and maintain the structures and infrastructure that forms our modern society.

土木工程师通过设计、施工、保养维护构筑出我们现代社会的建筑结构和基础设施。

“that” 引导定语从句, 修饰 “the structures and infrastructure”。

2. These projects can include designing facilities to safely handle solid waste, industrial waste, or municipal wastewater.

这些工程包括设计能够安全处理固体废物、工业废弃物或市政废水的设施。

动词不定式短语 “to safely handle solid waste, ...” 作定语, 修饰 “facilities”。

3. Engineering management includes leading, coordinating, overseeing and other similar management activities applied to engineering projects.

工程管理包括领导、协调、监督和其他类似应用于工程项目的管理活动。

过去分词短语 “applied to engineering projects” 作定语, 修饰 “activities”。

4. Water conservancy engineering includes various civil engineering projects providing safe drinking water and flood control works.

水利工程包括各类提供安全饮用水的土木工程项目和防洪工程设施。

现在分词短语“providing safe drinking water”作定语，修饰“projects”。

Task 4 Read the passage and match the phrases with their Chinese equivalents.

1. environmental engineering	A. 建筑工程
2. water conservancy engineering	B. 结构工程
3. geotechnical engineering	C. 地理空间工程
4. transportation engineering	D. 环境工程
5. structural engineering	E. 工程管理
6. geospatial engineering	F. 交通运输工程
7. construction engineering	G. 岩土工程
8. engineering management	H. 水利工程

Task 5 Read the passage again and answer the following questions.

1. What do civil engineers often do?
2. What is construction engineers' duty?
3. What systems can be used in geospatial engineering?
4. What are structure engineers responsible for?
5. How can we solve the problem of water shortage?

Task 6 Translation

Section A Translate the following sentences into Chinese.

1. It is said that civil engineers have saved more lives than doctors.
2. Civil engineers in transportation engineering build facilities to ensure the safe and efficient movement of both people and goods.
3. Water shortages are becoming an ever-growing concern.

4. Geospatial engineering includes surveying, mapping, remote sensing, and other similar activities.
5. Geotechnical engineers also evaluate and determine how to protect the structures against the effects of earthquakes and groundwater.

Section B Translate the following sentences into English.

1. 环境工程的重点是清洁和保护环境。
2. 被应用于工程项目的管理活动包括领导、协调和监督。
3. 他们专门研究各种类型运输设施的设计和维护。
4. 水利工程项目包括沟渠、管道、污水处理厂、大坝和防洪堤等。
5. 土木工程可以细分成不同的分支。

Notes

1. Civil engineers are responsible for the design and construction of infrastructure projects such as roads, bridges, and buildings.

2. Environmental engineering focuses on the application of scientific and engineering principles to the protection of the environment and the improvement of public health.

3. Geotechnical engineering is a branch of civil engineering that deals with the behavior of soil and rock under various conditions.

4. Water conservancy engineering involves the management and control of water resources for the purpose of flood control, irrigation, and navigation.

5. Transportation engineering is a branch of civil engineering that deals with the design and construction of transportation infrastructure.

6. Surveying is a branch of civil engineering that deals with the measurement of land and the determination of the position of points on the earth's surface.

7. Remote sensing is a branch of civil engineering that deals with the use of sensors to collect data about the earth's surface from a distance.

Reading B

Becoming a Successful Civil Engineer



To become a successful civil engineer, some common goals for success must be followed. They are:

1. Understand the knowledge that is required to become a successful civil engineer

You must build a strong mathematical foundation along with the experience and ability for construction and building. Project management techniques may serve a civil engineer well, as well as proficiency in the computer and the basic knowledge of civil engineering. Fulfill the requirements to become a civil engineer by becoming a detail oriented, analytical and creative person.

2. Attend an ABET accredited college to obtain a bachelor of science in civil engineering

Most engineering boards require the staff with a degree from an ABET accredited college. In order to take it, you must pass the exams of the Fundamentals of Engineering (FE) and Professional Engineering (PE).

3. Start working for your goal early

To become a successful civil engineer early, you may find a job to work around other civil engineers either during the summer time between coursework, part-time after classes, or through a college-enterprise cooperation program. This will provide you a better understanding of engineering knowledge studies through the college years. Moreover, in practice it will also help you in building an attractive resume.

4. Consider obtaining a master of science degree in civil engineering

The first eight years during a typical career involve more technical issues. An engineer with graduate level knowledge will have an advantage over an undergraduate-only trained engineer. Graduate level training will provide the expanded project capabilities and more confidence for an engineer starting out. In addition, employers typically need to put together resumes for

project teams in order to secure bids or commissions. A graduate degree will help inexperienced engineers get more projects.

5. Pass the Professional Engineering exam on the first attempt

Take a PE preparation course, if needed. The PE exam can be taken by engineers who have four years of work experience, working under the direction of a professional engineer, who also has passed the FE exam. For engineers with a master of science degree in engineering, only three years of work experience are required.

6. Continually add knowledge

If an inexperienced engineer wants to gain more experience, the natural career path is to move into management. Management means more money and responsibility, but technical abilities are sometimes placed second. And he also must keep up with current engineering trends, products, and technical skills. Engineers who can understand the civil engineering market and communicate technical issues to their staff are better managers.

7. Participate in local civil engineering professional groups

Attend the monthly meetings and network with other engineers. Meeting new contacts will help get a possible new job or new affiliates of other engineering companies.

(448 words)

Notes

1. Most engineering boards require the staff with a degree from an ABET accredited college.

大多数工程董事会只承认已被认证的学院所颁发的学位。

说明: ABET 是美国工程与技术鉴定委员会 “Accreditation Board for Engineering and Technology” 的缩写。

2. In order to take it, you must pass the exams of the Fundamentals of Engineering (FE) and Professional Engineering (PE).

要获得学位就必须通过基础工程(FE)和专业工程(PE)考试。

3. An engineer with graduate level knowledge will have an advantage over an undergraduate-only trained engineer.

拥有研究生学历的工程师胜过本科学历的工程师。

New Words and Expressions

proficiency [prə'fɪʃənsi] n. 熟练, 精通

fulfill [ful'fil] vt. 满足

orient ['ɔ:riənt] vt. 使适应; 使朝向

analytical [ænə'lɪtɪk(ə)l] adj. 分析的, 分析法的

affiliate [ə'fɪliət] n. 附属机构, 分公司

resume [ri'zju:m] n. 简历

obtain [əb'tein] vt. 获得

cooperation [kəu,ɒpə'reɪʃən] n. 合作, 协作

secure [si'kjʊə] vt. 得到

requirement [ri'kwaɪəmənt] n. 要求

bachelor ['bætʃələ] n. 学士学位

fundamental [ˌfʌndə'mentl] n. 基础

enterprise ['entəpraɪz] n. 企业

bid [bɪd] n. 出价

commission [kə'mɪʃən] n. 佣金

trend [trend] n. 趋向, 趋势

accredited [ə'kreditɪd] adj. 被认可的

participate [pɑ:'tɪsɪpeɪt] vi. (in) 参与, 参加