



新世纪应用型高等教育
行业英语类课程规划教材

PRACTICAL ENGLISH

实用英语 (工程管理类)

新世纪应用型高等教育教材编审委员会组编

主编 熊英



大连理工大学出版社

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前言

随着我国在国际交流和国际经济方面的快速发展,相关行业对大学生专业英语水平的要求也越来越高。大学生除了要能顺利地阅读与专业相关的英文文献之外,其专业英语的听力和口语水平也需要进一步提高,这样才能更好地适应日益激烈的国际化竞争。而理工类专业的学生往往在通过大学英语四级考试后中断了英语学习,即使继续学习,也往往不能和专业相联系,或在专业英语学习中忽视了口语的练习。这就对专业英语教材的编写提出了更高的要求。

本教材是针对工程管理专业大学三年级学生而编写的专业英语教材。编者在阅读大量工程管理专业英语文献的基础上精心选材进行编写,教材在内容设置上既体现专业方面的基本原理,更侧重专业英语知识在现实生活中的应用,力求是学生在阅读文章后能借鉴其内容并结合一定的情景进行英文交流。此外,在经过本教材中大量的口语和阅读训练后,学生应用专业术语的能力会进一步增强,这必将会为将来的工作打下坚实的基础。希望通过本教材的学习,开阔学生的专业视野并提高其专业英语的交际能力。

全书分为15个单元,内容涉及建筑业、项目建设模式、建筑项目计划、建筑管理、国际竞争性招标、进度管理、成本管理、质量管理、安全管理、风险管理、建筑合同、项目管理、项目谈判、索赔以及进度安排等,涵盖了工程建设的全过程,并且顺序安排与工程管理工作的一般过程大体相同。每个单元由Text A和Text B组成,其中Text A用于课堂授课,后面配有练习题,包括:1. 课后阅读理解问题:检验学生对文章的理解程度;2. 情景交际任务:让学生通过不同的情景结合文章内容用英文自主进行口语交际练习;3. 英汉互译练



新世纪

习;培养学生翻译与专业相关的句子的能力。Text B 作为补充阅读材料,供学生自学。

本教材由大连理工大学城市学院熊英任主编,郝可欣任副主编,大连理工大学胡竞、夏珍参与了编写。

为了方便教师更好地开展立体化教学,本教材另配有教师用书(纸质与电子版两种,免费赠送)、课件、教学大纲、电子教案及题库。教师用书可与大连理工大学出版社联系索取,其他配套资料请登录 <http://www.dutpgz.cn> 免费下载。

由于时间仓促,加之编者水平所限,书中的疏漏之处在所难免,敬请广大读者批评指正。

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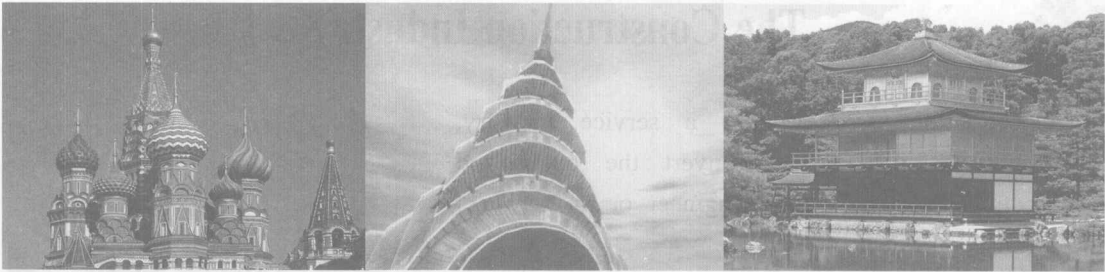
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Unit 1

Construction Industry



Learning Objectives

After reading this unit, you should be able to:

- know the definition of construction;
- understand the work of construction engineers;
- master the stages of construction work.



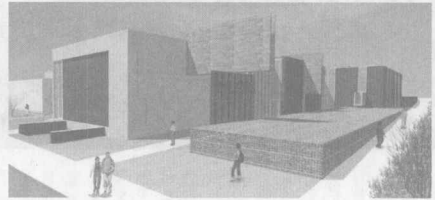
TEXT A



The Construction Industry

Construction is essentially a service industry, whose responsibility is to convert the plans and specifications prepared by an engineer or an architect into a finished project.

The construction of projects involves thousands of details and complex interrelationships among owners, architects, engineers, general contractors, special contractors, manufacturers, material dealers, equipment distributors, governmental bodies and agencies, labor and others.



The contractor assumes the responsibility for the delivery of the completed facility at a specified time and cost. In doing so, he accepts legal, financial, and managerial obligations. Construction accounts for 15 out of every 100 jobs and consumes more basic and finished materials than any other industry.

Under the stimulus of increasing demand for its services, the construction industry has expanded and is expanding in geographical scope and technological dimension.

Construction is the translation of a design to reality. It is as important and complicated as the design in order that the structure should perform as it was intended to and the work is finished within the required time at the lowest cost.

The designers must be in close contact with everything that is done during the construction work so that any changes in the site conditions, materials and work being done can be evaluated and, if necessary, corrected or improved.

The constructors should have the same knowledge of the working-plan as the designers. They must also know the details of the design and must understand any unusual aspect of the design. In fact, the constructors should go to the engineers for information and advice during

the design stage so that the plans do not call for something that cannot be built economically. Both the designers and constructors must always work in harmony.

More workers are employed during the peak period. The employees should be given training for working skills and knowledge about quality and safety as early as possible. It will improve the working efficiency a lot.

The construction work can be divided into a number of stages:

1. Evaluation of plans, specifications, basic demands and features of the site.
2. Plan and speed of the job.
3. Making the site ready.
4. Building the structure.
5. Cleaning up.

The first stage of evaluation consists of a careful study, demand of design and the site itself. Too often this is not done until the third and fourth stages are under way, which is far too late. The second stage is most important if the job is to be done economically. The equipment, labor and materials for each stage in the construction must be provided at the correct time.

The third stage includes constructing access roads, making the warehouse, concrete mixers, offices and housing for the workmen ready. Of course, this work is often just the beginning; the arrangements are changed several times during the progress of the work. The major part of the time and money is spent on the building stage.

With the development of science and technology, construction methods will change in all areas. Many daily functions will become automated and computer-controlled, especially in residential constructions. Thus there will be a demand for more skilled workmen, primarily those having a technical background.



Words and Expressions

owner	['əunə]	n. 业主
manufacturer	[ˌmænjuˈfæktʃərə]	n. 制造业者, 厂商
evaluation	[iˌvæljuˈeɪʃən]	n. 估价, 评价
warehouse	['wæəhaus]	n. 仓库
general contractor		总承包商
material dealer		材料经销商
equipment distributor		设备经销商
geographical scope		地理范围
technological dimension		技术尺度, 技术因素
be in close contact with		与……有密切联系

site condition	(建筑)工地条件
in harmony	和谐
peak period	高峰阶段
working efficiency	工作效率
residential construction	住宅建设
concrete mixer	水泥搅拌机, 混凝土搅拌机



Class Activities



A Questions for Discussion

Directions: Read the text carefully, and work with a partner on the following questions. Report the answer after discussion.

1. What is construction? Why is the construction of projects so complicated?

2. What should designers and constructors do in order to cooperate with each other harmoniously?

3. Give a brief analysis of the five steps of construction.

B Matching

Directions: Try to guess the meaning of the following English items and then match them with their Chinese meanings.

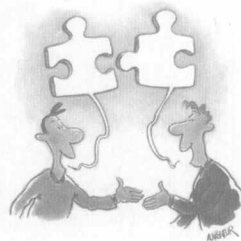
- | | |
|--|----------------|
| 1. Urban Design | a. 社区开发及工业园区开发 |
| 2. In-Situ and Laboratory Test | b. 开发许可申请 |
| 3. Economic and Efficiency Analysis | c. 土地使用变更计划 |
| 4. Community Development and Industry Park Development | d. 总体规划和局部规划 |
| 5. Construction Supervision | e. 市区重建(改造)计划 |
| 6. Land Use Rezoning Plan | f. 市区规划 |
| 7. Master Plan and Detail Plan | g. 现场调查 |
| 8. Site Investigation | h. 现场试验与室内试验 |
| 9. Urban Renewal Plan | i. 基础设计 |
| 10. Foundation Design | j. 工程监理 |
| 11. Development Permit | k. 经济效益分析 |
| 12. Financial Evaluation | l. 财务评估 |

C Oral Task

Directions: Two students work together and make up a dialogue according to the following situation.

Role A: Martin, a layman of construction industry, wants to know something about the construction industry.

Role B: A student, majoring in project engineering, tries to introduce the construction industry to Martin. Try to use the information in the text.



D Translation

Directions: Translate the following advertisement of a real estate agency into English.

恒鑫御园是集团最新开发的项目,坐落在人民公园、市政府、交易会、中山纪念堂、北京路的包围圈中,地域价值既具现时优势,又有前瞻性考虑。无论交通、相应配套设施还是地域层次,恒鑫御园都堪称新兴豪宅的典范。

一座房子的真正价值不仅在于它的工程建设质量和配套设施,更重要的是在于它的环境及未来价值的变迁方向。

1. 恒鑫御园	1. Hengxin Yuyuan
2. 集团	2. Group
3. 最新开发	3. Newly developed
4. 项目	4. Project
5. 坐落在	5. Located in
6. 人民公园	6. Renmin Park
7. 市政府	7. Municipal Government
8. 交易会	8. Fair
9. 中山纪念堂	9. Sun Yat-sen Memorial Hall
10. 北京路	10. Beijing Road
11. 包围圈	11. Surrounding area
12. 地域价值	12. Regional value
13. 具现时优势	13. Has current advantages
14. 有前瞻性考虑	14. Has forward-looking considerations
15. 无论交通	15. No matter traffic
16. 相应配套设施	16. Corresponding facilities
17. 还是地域层次	17. Or regional level
18. 恒鑫御园	18. Hengxin Yuyuan
19. 都堪称	19. Can be regarded as
20. 新兴豪宅的典范	20. A model of new luxury houses

Oral Task

Directions: Two students work together and make up a dialogue according to the following situation.

Role A: Martin, a lawyer of construction industry, wants to know something about the construction industry.
Role B: A student, majoring in project engineering, tries to introduce the construction industry to Martin. Try to use the information in the text.

TEXT B

Construction Engineering

Construction engineering concerns the planning and management of the construction of structures such as highways, bridges, airports, railroads, buildings, dams, and reservoirs. Construction of such projects requires knowledge of engineering, management principles, business procedures, economics, and human behavior. Construction engineers engage in the design of temporary structures, quality assurance and quality control, building and site layout surveys on site material testing, concrete mix design, cost estimating, planning and scheduling, safety engineering, materials procurement, and cost engineering and budgeting.

Construction engineering is different from construction management from the standpoint of the level of mathematics, science and engineering used to analyze problems and design a construction process.

Career

The construction industry in the United States provides employment to millions with all types and levels of education. Construction contributes 14% of the United States Gross National Product. Construction engineering provides much of the design aspect used both in the construction office and in the field on project sites. To complete projects construction engineers rely on plans and specifications created by architects, engineers and other constructors. During most of the 20th century, structures had been first designed then engineering staff ensured that it was built to plans and specifications by testing and overseeing the construction. Previous to the 20th century and more commonly since the start of the 21st century, structures were designed and built in combination, allowing for site considerations and construction methods to influence the design process.

Work activities

Construction engineers have a wide range of responsibilities. Typically entry level construction engineers analyze reports and estimate project costs both in the office and in the field. Other tasks may include: Analyzing maps, drawings, blueprints, aerial photography and other topographical information. Construction engineers also have to use computer software to design hydraulic systems and structures while following construction codes. Keeping a workplace safe is key to having a successful construction company. It is the construction engineer's job to make sure that everything is conducted correctly. In addition to safety, the construction engineer has to make sure that the site stays clean and sanitary. They have to make sure that there are no impediments in the way of the structure's planned location and must move any that exist. Finally, more seasoned construction engineers will assume the role of project management on a construction site and are involved heavily with the construction schedule and document control as well as budget and cost control. Their role on site is to

provide construction information, including repairs, requests for information, change orders and payment applications to the managers and/or the owner's representatives.

Skills

Construction engineers should have strong understanding for math and science, but many other skills are required, including critical thinking, listening, learning, problem solving, monitoring and decision making. Construction engineers have to be able to think about all aspects of a problem and listen to other's ideas so that they can learn everything about a project before it begins. During project construction they must solve the problems that they encounter using math and science. Construction engineers must maintain project control of labor and equipment for safety, to ensure the project is on schedule and monitor quality control. When a problem occurs it is the construction engineer who will create and enact a solution.

Abilities

Construction engineers need different abilities to do their job. They must have the ability to reason, convey instructions to others, comprehend multi variables, anticipate problems, comprehend verbal, written and graphic instructions, organize data sets, speak clearly, visualize in 4D time-space and understand construction methods.

Educational requirements

A typical construction engineering curriculum is a mixture of engineering mechanics, engineering design, construction management and general science and mathematics. This usually leads to a Bachelor of Science degree. The B.S. degree along with some construction experience is sufficient for most entry level construction engineering jobs. Graduate school may be an option for those who want to go further in depth of the construction and engineering subjects taught at the undergraduate level. In most cases construction engineering graduates look to either civil engineering, engineering management, or business administration as a possible graduate degree. For authority to approve any final designs of public projects (and most any project), a construction engineer must have a professional engineers (P.E.) license. To obtain a P.E. license the Fundamentals of Engineering exam and Principles and Practice in Engineering Exam must be passed and education and experience requirements met.



Words and Expressions

dam	[dæm]	n. 水坝
reservoir	['rezəvwa:]	n. 水库, 蓄水池
aerial	['æəriəl]	a. 空中的, 航空的
hydraulic	['hai'drɔ:lik]	a. 水力的, 水压的, 水工的
sanitary	['sænitəri]	a. 卫生的, 清洁的
impediment	[im'pedimənt]	n. 障碍(障碍物, 行李, 辎重)
entry level		初学者

Unit 2

Project Delivery Systems



Learning Objectives

After reading this unit, you should be able to:

know the definition of project delivery;

understand the project delivery system;

master the advantages of the Design-Bid-Build system.