

实用 土木与建筑工程 专业英语

Practical English for
Architecture & Civil Engineering

主 编◎汪德华

副主编◎闫一江 / 赵 斌 / 崔 莉

A B C D E F
G H I G K L
M N O P Q R
S T U V W X
Y Z



ZHEJIANG UNIVERSITY PRESS

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作者简介

汪德华 浙江大学宁波理工学院教授,“东西方语言文化与传播中心”副主任。宁波市外文翻译学会理事。研究方向:英汉语言与文化,英语教学法。在国内外学术刊物上发表论文 40 余篇,主编教材《建筑工程专业英语》《中国和英美国家习俗文化比较》等 7 本,主持完成了浙江省社科联,河南省社科联重点科研课题及民生课题 10 余项,其中“我国加入 WTO 对外语教育的影响与对策研究”获河南省社科联重点调研课题一等奖;河南省人民政府实用社会科学优秀成果三等奖。“高校实施创新教育,培养创新人才问题的研究”获河南省教育科学研究优秀成果一等奖。

闫一江 宁波市城建设计研究院结构工程师。湖南大学土木工程学院毕业,硕士。宁波市土木建筑工程学会会员。研究方向:配筋砌体剪力墙结构。在专业杂志上发表《混凝土小型空心砌块墙体数值模拟及刚度分析》等多篇论文,参与了宁波市多项重大工程项目的的设计工作。多项工程设计被评为浙江省、宁波市优秀设计二、三等奖。

赵 斌 浙江大学宁波理工学院外语分院教师,从事高校外语教学十余年,曾多年从事对外贸易并驻海外承担国际承包工程口、笔译工作,为“双师型”教师,负责浙江省教育厅课题一项、宁波市级课题两项并获 2008 年宁波市教育科研优秀成果二等奖。

崔 莉 浙江大学宁波理工学院讲师,硕士,主要从事大学英语教学和中西方文化研究,主持浙江省社会科学界联合会研究课题 1 项、宁波市哲学社会科学规划课题 1 项,并在国内学术期刊上发表多篇论文。

前言

为适应我国高等教育发展的新形势,深化教学改革,提高教学质量,满足新时期国家和社会对人才培养的需要,2004年初,教育部颁布了大学英语课程教学要求(试行),拉开了全国大学英语课程改革的序幕。大学英语教学作为一门基础课程,其重要意义众所周知,但两年英语学习之后,学生的语言能力在实际应用中表现得并不理想,主要原因之一是没有解决好四年不断线的课程设置问题。因此,各高等学校根据实际情况,按照课程要求和本校的大学英语教学目标设计出各自的大学英语课程体系,将综合英语类、语言技能类、语言应用类、语言文化类和专业英语类等必修课程和选修课程有机结合,以确保不同层次的学生在英语应用能力方面得到充分的训练和提高。不同专业的学生在修完基础阶段的英语课程后,可根据自身兴趣和需要自由选择提高阶段课程的学习,以满足个人和社会发展的需求。

本书为适应高等院校建筑工程类专业英语的教学需要而编写,本书注重学习者的学习兴趣、专业知识和认知水平,倡导自主、体验和实践的学习方式,强调“在学中练,在练中学,在学中用,在用中学”的学习理念。既注重知识结构的完整性,又突出所选材料的趣味性。全书课文以建筑工程为主线,系统地介绍该专业所包括的基本内容。全书共14个单元,内容涉及土木建筑工程各个方面,系统地介绍该专业所包括的基本内容:①专业介绍;②建筑材料;③建筑设计;④建筑结构;⑤建筑基础;⑥建筑墙体;⑦屋顶建筑;⑧建筑工具及方法;⑨建造程序;⑩建筑物的功能;⑪建筑测量;⑫建筑保温与防潮;⑬建筑设计比例;⑭建造后期问题。每个单元包括五个部分,第一部分为热身准备,第二部分为指导实践,第三部分为能力扩展,第四部分为建筑商务,第五部分为专业阅读。五个环节,环环相扣,集说、写、读、译为一体。一到四部分着力培养学生对专业知识的表述能力,其中练习形式多样,轻松活泼,设计的句子简单,实用,易记,且附有插图。第五部分的阅读,设计(A),(B)两篇阅读文章,选材新,文体符合一般英语原版书刊的格式,难易适中,涉及面广。每篇文章后附有生词、注释、练习。书后附有每单元练习的参考答案。

《实用土木与建筑工程英语》具有以下特点:

1. 直观生动:教材内容编排进行全新的尝试,体例新颖。每单元附有相关内容的插图,

使教学内容更加直观,有利于提高学生的学习兴趣及课程的教学质量。

2.难度适中:内容和语言设计充分考虑普通高校土建专业学生的实际水平,根据语言技能和专业知识的不同方面编排教学内容,内容实用,易学易记。

3.突出应用:教材体系严密完整。弱化理论,强化实践内容,侧重技能传授。各章节内容围绕学生在该领域将要面对并应该了解和掌握的问题展开,使学生既掌握英语语言技能又掌握该专业技能。

4.内容丰富:本教材涉及土建专业活动的各个环节,同时还包括语言、文化、经济和商务等方面的知识。使学生提高专业英语阅读能力的同时还扩大知识面。

5.使用广泛:该书可作为本科大学英语四级后的专业英语教材,亦可供高职高专土建专业的学生使用,还可以供土木与建筑工程在职人员业务培训用。

本书由汪德华规划全书结构、选编材料及担任主审。赵斌、崔莉参与了材料的选编和改写,并编制了课后练习。闫一江承担了该书的选材、校对、审核,对书中的专业插图进行了绘制,并对本书的文字排版做了大量的工作。由于编者水平有限,书中难免出现一些错误,谨请读者谅解,并恳请广大读者和同行专家提出宝贵批评意见。

编 者

2012年6月16日

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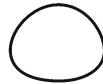
UNIT 1 INTRODUCTION

Part 1 Warm-up Activities

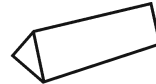
1 . Here are some examples of basic forms , read out and learn them by heart :



a cube



a hemisphere



a triangular
prism



a pyramid



a rectangular
prism



a cone



a cylinder



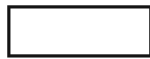
a square shape



a circular shape



a semi-circular shape



a rectangular shape



a triangular shape

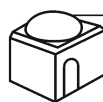
2 . Now look at these drawings of buildings and building components :



a hotel



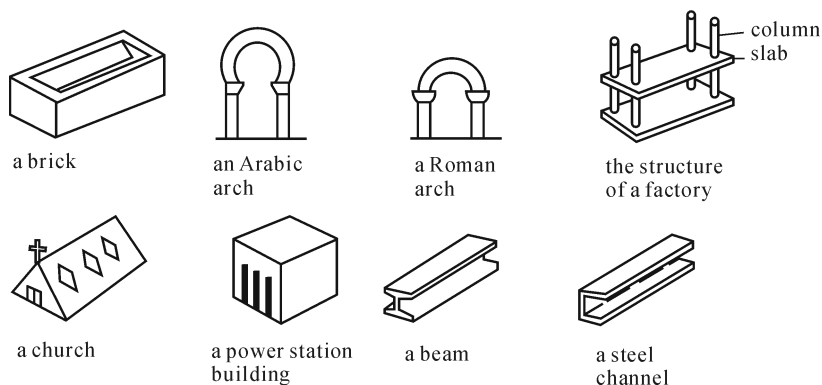
a minaret



an Egyptian
house



a mosque



3. Now answer these questions about the drawings in exercise 2:

- Which building is pencil-shaped?
- Which building component is T-shaped in cross-section?
- Which building component is C-shaped in cross-section?
- Which dome is egg-shaped?
- Which arch is horseshoe-shaped?
- Which building has diamond-shaped windows?

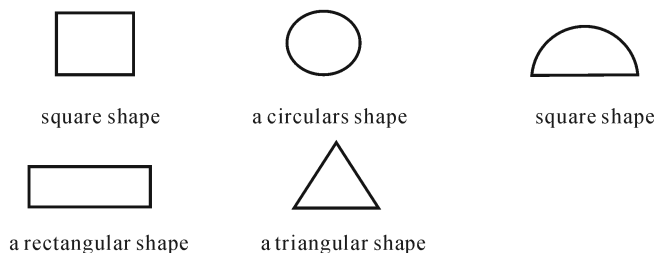
Part 2 Controlled Practices

1. Complete the following sentences as the example:

Example: The brick is shaped like a rectangular prism.

- The hotel is shaped like a...
- The top of the minaret...
- The dome of the Egyptian house...
- The column...
- The slab...
- The church...
- The power station building...

2. Look at these drawings of two-dimensional shapes and make sentences using the phrases given in the table below:



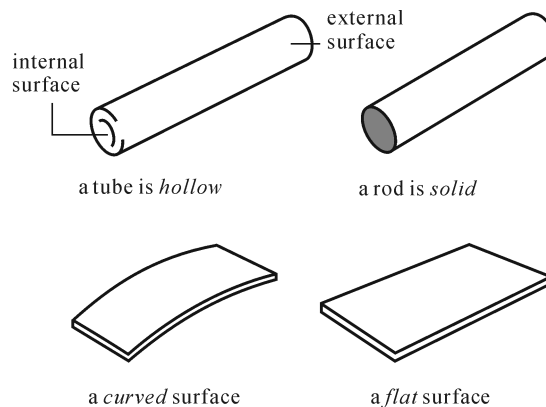
Example :

The cross-section of a square prism is square in shape .

The longitudinal section of a square prism is rectangular in shape .

The cross-section of the	brick hotel		square circular	
The longitudinal section of the	top of the minaret column church	is	semi-circular rectangular triangular	in shape .

3 . Study , read and follow :



The power station building is hollow . It has five flat external surfaces .

Now describe these buildings and components in a similar way :

- The church
- The slab
- The column
- The mosque
- The steel beam

Part 3 Further Development

Civil Engineering and Civil Engineers

The following statements are about civil engineering and civil engineers . Read the English sentences and fill in the blanks with proper translation .

1) Civil engineering , the oldest of the engineering specialties , is the planning , design , construction , and management of the built environment . This environment includes all structures built according to scientific principles , from irrigation and drainage

systems to rocket-launching facilities .

土木工程,最古老的工程专业,是建筑环境的_____。这个建筑环境包括从_____到_____所有根据科学原理建造的结构物。

2) Civil engineers build roads , bridges , tunnels , dams , harbors , power plants , water and sewage systems , hospitals , schools , mass transit , and other public facilities essential to modern society and large population concentrations .

土木工程师修建_____以及现代化社会和大量人口集中的地方所必需的其他公共设施。

3) They also build privately owned facilities such as airports , railroads , pipelines , skyscrapers and other large structures designed for industrial , commercial , or residential use .

他们也修建_____设施,如_____设计的其他大型建筑。

4) In addition , civil engineers plan , design , and build complete cities and towns , and more recently have been planning and designing space platforms to house self-contained communities .

此外,土木工程师_____,最近已经开始规划和设计_____以容纳独立的(科研)团体。

5) Because it is so broad , civil engineering is subdivided into a number of technical specialties . Depending on the type of project , the skills of many kinds of civil engineer specialists may be needed .

因为土木工程的范围太广,所以它被细分为许多技术专业。根据_____,就需要土木工程师专家的_____。

6) When a project begins , the site is surveyed and mapped by civil engineers who locate utility placement-water , sewer and power lines . Geotechnical specialists perform soil experiments to determine if the earth can bear the weight of the project . Meanwhile , structural specialists use preliminary data to make detailed designs , plans and specifications for the project .

当一项工程开始时,_____要勘测现场并绘图,他们还要确定水管、污水管道和电线的实用布置。_____要做土工试验以确定该土壤是否能承受这项工程的重量。同时,用初始资料来做工程的详细设计、规划和说明书。

7) Environmental specialists study the project 's impact on the local area : the potential for air and groundwater pollution , the project 's impact on local animal and plant life , and how the project can be designed to meet government requirements aimed at protecting the environment .

_____要研究工程对当地区域的影响:_____,工程对当地动植物的影响,以及工程怎样设计才能_____保护环境的_____。

8) Transportation specialists determine what kind of facilities are needed to ease the burden on local roads and other transportation networks that will result from the completed project .

_____要确定需用_____来减轻由完工的工程产生的荷载_____带来的压力。

9) Supervising and coordinating the work of these civil engineer specialists , from the beginning to the end of the project , are the construction management specialists Based on information supplied by the other specialists , construction management civil engineers estimate quantities and costs of materials and labor , schedule all work , order materials and equipment for the job , hire contractors and subcontractors , and perform other supervisory work to ensure the project is completed on time and as specified .

从工程开始到结束 , _____监督并协调土木工程专家们工作。根据_____提供的信息 , 施工管理土木工程师要估计材料、劳动力的数量和成本 , 安排所有的工作 , _____ , 雇用承包商和转包人 , 以及_____以确保工程能按照说明按时完工。

10) Throughout any given project , civil engineers make extensive use of computers . Computers are used to design the project 's various elements (computer-aided design , or CAD) and to manage it .

对于_____ , 土木工程师都能_____。计算机_____并进行管理。

Part 4 Business Activities

International Travel

1. 文化与指南 (Culture and Directions)

国外承包工程 , 涉及许多国际旅行 (international traveling) 的问题 , 因此 , 需要学习一些旅途用语 , 了解一些乘飞机的常识。

最好在起飞前 1 个小时到机场。然后到相关航空公司的机场服务台 (check-in counter) 凭机票 (ticket) 和护照 (passport) 领取登机卡 (boarding card) , 并办理托运行李手续。过安检时要将登机牌、身份证交给安检员 , 安检员审核没问题后会在登机牌上面盖章。然后过安检门 , 随身带的物品从安检门旁的 X 光安检机传送过去 , 人要从安检门通过。安检没问题就进候机厅候机。听到登机广播后 , 到登机口将登机牌交给服务人员检验 , 持登机牌上飞机。登机牌上标明有你的位置 , 数字代表第几排 , 每排的座位是按 A、B、C、D、E、F 排列的 , 找到你的位置坐下 , 扣上安全带 , 起飞前关掉手机。在飞行时 , 航空公司有免费饮料派发 , 长航线会有免费餐食供应 , 短航线派发点心。航行中 , 空服员会发一份入境登记表或海关申报表 , 应该早一点填妥。下飞机后 , 要先到机场移民局 , 交上旅客入境卡 , 移民局官员在检查你的护照和签证并询问一些问题之后 , 若没发现问题 , 就会让你入境。接下来你需要到领取行李处 (baggage claim area) 领取行李。最后再到海关 (customs) 上交海关申报单 , 办理入关手续。

2. 情景会话 (Situational Conversations)

(1) Booking An Airplane Ticket

China Electrical Construction Company (CECC) is awarded a contract for a power project abroad. The project manager's assistant is phoning to book an airplane ticket.

(A: the project manager's assistant; B: the ticket agent)

B: East China Airlines. How can I help you?

A: I'd like to make a reservation for Alger, please.

B: When do you plan to leave?

A: I'll set off on the 23rd of next month.

B: We have seats available on a flight leaving Shanghai at 9 o'clock in the morning and arriving in Alger at 11 o'clock in the evening of the same day. Is that all right?

A: Sounds great.

B: Would you prefer first class, business or economy?

A: Economy, please.

B: May I have your name?

A: Zhang Shan and another person is Lin Qiang.

B: OK. I've booked you on East China Airlines Flight Number EC135 leaving at 9 o'clock, June 23rd and arriving in Alger at 11 o'clock.

A: All right. Thank you very much.

B: How would you like to pay for the ticket?

A: By credit card. Can I give you the details now and then you can send me the tickets through the post?

B: Certainly.

A: Thank you.

B: You are welcome.

(2) Check-in at the Airport

(A: the project manager's assistant; B: the airport clerk)

B: (At the check-in counter) Good morning. Ticket and passport, please.

A: Good morning. We're in a group. Here are the tickets and passports.

B: How many people in the group?

A: Two.

B: Any seat preference?

A: We'd prefer the window seats in the non-smoking section.

B: How many pieces of baggage do you want to check?

A: Two for each of us. By the way, what's the baggage allowance?

B: Seventy pounds for each passenger and the weight limit for each piece is forty -five pounds . Put these four big cartons and that suitcase on the scale then , one by one .

A : I hope they're not overweight .

(After weight all the things)

B: No , you're OK . Now , let me put on the baggage tags .

B: Your boarding cards and passports .

A : Thanks . What's the boarding gate number?

B: Gate seven . Have a good flight , gentlemen .

A : Thanks a lot .

(3)On Board the Plane

(A : the project manager ; B: the project manager's assistant ; C:Steward)

C: (At lunch time) What would you like to have , sir? We have fried chicken , fish and beef .

B: Fish , please .

C: How about a drink , coke , orange juice or beer?

B: Do you have tea?

C: Sorry , We don't serve tea at lunch .

B: Then , a coke , please .

C: (To Mr . Lin , who is sitting next to Mr . Zhang) And you , sir?

A : Nothing right now . I'm feeling a bit airsick .

C: I'll see if I can get you some tablets for airsickness . Just a moment , please .

A : Thank you very much .

(4)Going through Customs

(A : the project manager ; B: airport inspector)

B: Good afternoon . May I see your passport , please?

A : Of course . Here you are .

B: Thank you . What is the purpose of your visit—business or pleasure?

A : Business . We're going to Alger to execute a construction project .

B: Fine . Is this all your luggage?

A : Yes , that's all my luggage , one suitcase and one bag .

B: Do you have anything to declare?

A : I guess not .

B: Well , would you mind opening your suitcase?

A : Oh , not at all .

B : Thanks .

(*Zhang opens his suitcase . The inspector is inspecting the suitcase , and now he looks at a bag .*)

B : What 's inside the bag ?

A : That 's my laptop computer . Do I have to pay any duty on it ?

B : No , it 's duty-free .

A : By the way , I 'm carrying four packs of cigarettes for my own use . Are they dutiable ?

B : No , goods for personal use rather than commercial use are not subject to duty .
And they are within the limit .

A : Good . And thanks for the information .

B : All right . Here 's your passport .

A : Is that all the customs formalities ?

B : Yes . You 're though now . Have a pleasant stay .

A : Thank a lot .

New Words and Expressions :

available	a.	可以得到的,可以利用的
destination	n.	目的地
stewardess	n.	航空小姐
airsick	n.	晕机
passport	n.	护照
tablet	n.	药片
construction project		建筑项目,工程项目
customs	n.	海关
declare	v.	申报
belongings	n.	所有物,物品
check-in		登记,报到
flight number	n.	航班号
airport terminal	n.	机场候机大厅
A .C .(airline clerk)		航空公司职员
baggage	n.	行李
allowance	n.	许可量,限额
suitcase	n.	手提箱,衣箱
overweight	v.	超重的
boarding card		登机卡
boarding gate		登机门

Notes to the Text :

1. to execute a project : 承建一项目 ,如 :We're going to execute a power project .
2. declaration slip :海关申报单。也可以说 declaration form ,customs statement。
3. personal belongings :个人随身物品。也可以说 personal effects。
4. check-in counter :办理登机手续的服务台 ,又称作 check-in desk。
5. baggage allowance :免费托运的行李限额。如果超过限额 ,则超出的部分要付运费 (pay for excess baggage)。
6. baggage tag :行李标签 ,也可以说 baggage claim tag ,上面填有托运人的姓名以及托运到的地点。
7. boarding card :登机卡(牌) ,也可以说 boarding pass。

Post-Reading Exercises :

1. Do you know any regulations for taking a plane? Tick the statements you think are true .

- () 1) Passengers can only hand-carry a small bag aboard the plane .
- () 2) Children under 5 needn't buy a ticket .
- () 3) People who haven't got an ID card cannot board the plane .
- () 4) Passengers mustn't carry dangerous articles such as compressed gases , weapons , explosives , corrosives , or inflammables onto the plane .
- () 5) Passengers can smoke during the flight .
- () 6) Passengers mustn't use mobile telephones on flights because they will interfere with the plane's electronic equipment .
- () 7) Passengers must check in 30 minutes before departure on international flights .
- () 8) Passengers must fasten their seat belts during take-off or landing .
- () 9) The airline needn't accept responsibility for delays due to bad weather .
- () 10) Passengers can transfer their tickets to others without going to the booking office .

2. Translate the following sentences into Chinese :

- 1) For your safety , all electronic devices , such as mobile phones , computers , CD players , MP3/MP4 ,game players must be turned off during take-off and landing .
- 2) Please make sure your baggage is in the over-head bin or under the seat in front of you .
- 3) Please keep the aisle and the exits free of baggage .
- 4) Attention , please . We'll be landing at Los Angeles Airport in 30 minutes' time . For your own safety , please make sure that your seat belt is well fastened .
- 5) Please take your passport , flight ticket , relevant immigration forms and all your belongings with you and go through the immigration formalities in the terminal .

Part 5 Extensive Reading

(A) Houses

A house is a building that provides home for one or more families . Its main function is to provide shelter , but a house usually serves many more purposes . It is a center of family activities , a place for entertaining friends , and a source of pride in its comfort and appearance .

Many private houses built in the United States are designed by builders , rather than by professional architects . For this reason , family houses are most easily classified by the type of layout or the floor plan , not by reference to architectural styles . Here are some examples of commonly used styles of family homes in the United States .

Cape Cod . The Cape Cod house is usually small and has a sharply sloping roof . Many Cape Cods have three or four rooms on the ground floor and two small rooms on the second floor . In the modified Cape Cod , the second floor is made larger by decreasing the slope of the roof in the rear and by adding dormers , or gabled extensions with windows , in the front . The Cape Cod originated in colonial New England .

Two-Story House . Before World War I , the usual one-family house had two full stories , as well as a basement and an attic . This type of house is probably still the most common house , and many new ones are being built following this design , It usually has a square floor plan and a central hall , and it is often called a Colonial house .

Ranch House . The ranch house is long and low and all the rooms are at ground level . Some ranch houses have no basement . The ranch house originated in the West and Southwest of the United States and became popular in the building boom that followed World War II .

Split-level House . The split-level house has two or more levels , separated from each other by half flights of steps . The kitchen and family room may be on one level . The living room on a second level , and the bedrooms on a third level . This house was developed in the building boom that followed World War I , and it is probably the most popular type being built .

Attached Houses . Houses for two families are often called duplex houses , because they have two stories . One family may live on each story , or each family may have both upstairs rooms and downstairs rooms , with the two parts of the house separated by a wall through the middle .

Row houses . In towns and cities , there are often rows or two-story houses attached to each other . These are called row houses . Each unit in a row may be a one-family or