

卓越系列

21 世纪高职高专精品规划教材·专业基础课适用

环境保护专业英语

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前 言

环境保护专业英语是为高等学校专业英语阶段的学生编写的英语教材。本教材从高级应用型人才培养的总体目标出发,结合环境保护工程专业实际,力求向学生提供未来工作岗位所需要的专业英语知识和技能,培养学生实际使用英语的能力。

本教材点面结合地介绍了有关环境入门的知识,包括水、空气、噪音等方面的环境污染及处理的专业英语知识。选材均来自国外原创文章,内容丰富、实用,语言规范、易懂。练习兼具实用性与针对性。

《环境保护专业英语》共分 20 个单元。每单元包括三个部分:Part A,Part B,Part C。

Part A 为专业技术性较强的英语阅读,旨在培养学生阅读专业英语文章的能力。本部分可在教师讲解与辅导下进行学习。

Part B 为 Part A 的辅助阅读文章,目的是为了培养学生开阔有关专业英语知识的眼界。学生可借助词典进行学习。

Part C 为实用英语知识介绍,其内容包括专业英语词汇、专业英语阅读、专业英语翻译与专业英语写作,旨在培养学生实际运用英语的能力。

本教材每单元的 Part A 均注有生词,并配有注释,以便于学生学习。此外,每单元后还配有针对性的练习。本教材由李全福、张青主编。参加本书编写的还有韩敏、冯艳文、杨柳枝。

由于编者水平有限,加之时间紧迫,疏漏与不妥之处在所难免。恳请读者提出宝贵意见。

编 者

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Unit One

Part A What Exactly Does Environment Mean ?

It seems that everyone is talking about the environment. Television programs and newspapers often run stories on the environment. ① Parents are concerned about pollution and their children's future environment. Politicians debate how best to protect the environment. You are preparing to learn about the environment. But what exactly does environment mean ?

Your environment consists of your surroundings. Your environment can be the building that you are in , whether it is your home or school. It is the neighborhood and the city or town in which you live , too. But it is also much more than that. Your environment includes the things that support life , such as air , soil , water , and the chemicals in them.

① 电视及报纸经常对环境问题进行报道。



Environment includes physical conditions , such as climate , elevation , and other geographical features of your world. Other living things—the plants , animals , and microbes are also a part of it. The energy that keeps everything going is a part of your environment , too.

Generally speaking , environment is the physical and biotic habitat which surrounding us , that which we can hear , smell and taste.

Although most of us live in an environment made by humans , that environment is supported by the natural world. We depend on healthy soils to produce the food we eat. That means that soil must be cared for soil that is poisoned and worn out can't grow food.

Lakes , streams , and rivers must be protected to provide people with a clean , safe drinking-water supply. This requires not only protecting these bodies of water , but also the land around them.

We all need clean air to breathe. This means that we need to understand how our activities affect the quality of our air. The burning of fuels for making electricity and for transportation contributes to air pollution. So it is important that we understand how our environment works. We want to be sure that we will continue to survive on a healthy planet. ①

New Words and Expressions

be concerned about	关心 挂念
pollution n.	污染 玷污
debate v. &n.	争论 辩论
consist of	由...组成
surroundings n.	环境
geographical adj.	地理学的 地理的
microbe n.	微生物 细菌
biotic adj.	关于生命的 ,生物的
poison n.	毒药 毒害
v.	毒害

① 我们要确保在健康的星球上持续发展。

electricity n.	电流, 电, 电学
transportation n.	运输, 运送
survive v.	幸免于, 幸存

Part B The Target and Task of the Environmental Protection and the Prospect of the 21st Century

To set the environmental target should be based on the present situation of our country, which is the basic principle we have stuck to for many years. To be more exact, we should take the following factors into consideration: one is the actuality of our environmental quality and the people's expectation and request for the future environment; another is the support ability of our economy technology; the third is the pressure of the population increase and the economic development on the environment. From above and after studies and argumentations again and again, we have set the environmental target. The concrete targets are: in the early 21st, the discharge of the industrial sewage should be controlled 30,000 to 32,000 million tons and the disposal rate of the industrial sewage amounts to 84%; the popularization rate of the urban discharge equipment reaches 70% and the disposal rate is 25%; the discharge of sulfur dioxide is controlled to 21 million tons, and the disposal rate of the industrial exhaust gas is 90%; the gasified rate of the gas used by urban inhabitants amounts to 60% and the area provided with heat will be 470 million m^2 ; the comprehensive utilization rate of the industrial wastes adds up to 45% to 50%; the transportation trunk lines with the noise lower than 70 dB occupies 60% to 70%; the rate for noise to reach a set standard in cities should be 60% to 70%; the total area covered with forestry amounts to 164,200,000 hectares, and the forest coverage is about 17%; the area for all the natural protection zones in the country is 60 million hectares, occupying 6% of the nation's total territory.

Our country has put forward, in the early 90s of the 20th century, ten strategic countermeasures of the harmonious development of the environment and economy in the new situation of the socialist market economy, which bear the following important points.

The first is to change the traditional development stratagem and take the road of



the sustainable development , which is the most important of the ten countermeasures because it has made requests not only for the environmental protection but also for the whole economy. The environmental problems would not be solved if we simply relied on some remediation measures without changing the model of consuming.

Lots of resources and energy resources have been adopted for years to increase the economy. Therefore , we should definitely carry out the policy of the planning , actualizing and developing synchronously of the economic construction , the urban and rural construction and the environmental construction. The governments of all levels and the corresponding sections should put the environmental protection targets and measures into their mid , long-term plan and their annual plan , and into the arrangement of the governmental budget. They also should strictly carry out the industry policy , eliminating the technique , equipment and product with high-energy consumption , high resource wasting and serious pollution. The economy work and the achievement in the leaders post should be judged and checked according to the development speed , the economic benefit and the social and environmental benefit as well.

Secondly , the important point for the environmental protection is that we should go on preventing the industrial pollution and tackling the urban environment in a comprehensive way. The environmental problems in our country bear the characteristics of the early days of the industrialization , especially in the urban areas with dense population and industry. In the prevention of the industrial pollution , the following measures have been taken : to improve the technique , advocating the cleaning techniques and reusing the wastes ; to have a reasonable overall industrial arrangement , predicating on the economic benefit and the environmental endurance ; to guide the community to tackle the environment in a comprehensive way and centralize its control in order to improve the profit of the environmental protection investment ; to create the modern industrial civilization. And in the urban environmental protection , we have taken the following measures : to tackle the environment in a comprehensive way in the construction of the infrastructures to improve the urban energy structure , carrying out the centralized heating and gasification ; to centralize the disposal of the sewage and garbage and to reuse the purified ; to carry out an overall plan in the construction of new urban areas and the reconstruction of the old ones and to have the necessary construction of the people s living equipment and the environmental equipment.

The third is to strengthen the government function in the environmental management , making better use of the financial measures and the law to protect the environment. The government function in the environmental management should be further more strengthened in the reform of the economic system and the government agency , which guarantees and promotes the socialist economy market. To meet the demand of the socialist economy market , the old environmental protection laws and regulations and the management system should be reformed. There are two aspects should be developed in the environmental management : one is that the financial measures should be taken to protect the environment in the course of the establishment of the environmental law ; the other is to further encourage the participation of the public , to reinforce the supervision of the people , and to enhance the consciousness of the citizens to take their responsibility for the environmental protection.

Part C 专业英语词汇的特点

专业英语词汇的特点之一就是广泛地使用词缀和词根 ,甚至用词缀和词根创建新词。专业英语常用的词缀包括前缀(prefix)和后缀(suffix) ,具体可分为名词前缀、名词后缀和形容词词缀。前缀一般由一个或几个字母组成 ,放在词根或单词之前组成一个新词。每一前缀都有一定的含义 ,加了前缀的单词其词性一般不发生变化 ,只改变原来单词的意思 ,例如 :auto-(自动)——autoalarm(自动报警) ,autocontrol(自控)。前缀一般不超过六个字母 ,而后缀则是加在单词后面的词缀 ,一般不超过四个字母。后缀大多数只改变单词的词性 ,而词的意义一般不变 ,例如 :-er(表示人 ,动作者 ,物)——designer(设计者) ,rectifier(整流器)。因此掌握一定量的词缀和词根就能掌握英语单词内在的结构规律 ,从而达到举一反三、见词识意的效果。

Exercise

Identify the meaning of the following words according to characteristic of affix in Specialized English.



词缀	含义	词例	
audi-	hear 听, 听见	audibility	audiphone
auto- aut-	self 自己	automation	autoignition
tele-	far 远	telephone	telecontrol
hydr(o)-	water 水	hydrocarbon	hydraulic
-meter	instrument 仪器, 仪表	thermometer	barometer
-fold	...倍, 成...倍	threefold	fivefold

Unit Two

Part A The Science of Ecology

The world in which we live consists of living organisms and non-living structures. Often, relationships between organisms or between organisms and non-living structures are clearly visible. The science of ecology in its pure form studies the relationships of organisms with their environment. ① “Organisms” means all living entities; this definition excludes relationships between non-living entities as a possible object of study for ecology. The term “environment” is meant in the sense of “the surrounding world,” i. e., all entities, living or not, which surround a living entity.

Thus for a grazing rabbit the environment includes for example other rabbits, grass, soil and weather. Ecology is a study of relationships. These can be very complex or hardly recognizable. Therefore often studies are done on the relationship of

① 生态科学主要研究生物及其周围环境之间的关系。



one kind of organism , a species , with its environment. This type of ecology is called autecology. Even then reality mostly appears to be incredibly complex , as parts of the organism (organs or even cells) react differently to environmental influences. Hence ecophysiology has gained more and more importance , particularly in the last few decades.

The study of the relationships between groups of organisms and between so-called “communities” and the non-living (biotic) environment is called synecology. ① On this level of complexity autecological issues are often neglected , as these would render any understanding at the community level almost impossible.

Discerning structural and functional aspects can make another division within the science of ecology. In studying the structural relationships (e. g. the occurrence of various plant and animal species in a particular non-living environment) , description of pattern and process is prevalent. In studying the functional aspects (e. g. the flow of energy from the sun through plants , herbivores and carnivores) , measuring of flows and input-output relations is relevant. Often structural ecology is rather descriptive , while functional ecology tends to be experimental.

Man is an organism. As such , his relationships with the environment are objects of study to the science of ecology. However , because of the importance of cultural aspects in the existence of Homo sapiens , human ecology is often seen as a separate discipline. This does not imply that some basic concepts would not be applicable to our species.

In human ecology , the division into biotic ecology and social ecology is often used. Biotic ecology studies the reaction of human beings on environmental influences , particularly toxic substances , noise , radiation etc. Social ecology is concerned with the pattern and process of human communities in relation to their environments , e. g. the use of communication systems like roads or the residential circumstances in a town as a result of structural processes. Basically human ecology can be viewed as a kind of autecology , because in that cultural aspects play a relatively important role. As human ecology makes use of theories and concepts from the social sciences while ecology requires contributions from physics , chemistry and earth sciences , the basic concepts of ecology can be regarded as the link between the natural

① 群体生态学是研究生物群体之间及所谓群落与非生物环境之间相互关系的科学。

and the social sciences.

New Words and Expressions

ecology n.	生态学
organism n.	生物体 ,有机体
exclude v.	拒绝接纳 ,排斥
entity n.	实体
recognizable adj.	可认识的 ,可辨认的
autecology n.	个体生态学
ecophysiology n.	生态生理学
synecology n.	群体生态学 ,群落生态学
autecological adj.	个体生态学的
occurrence n.	发生 ,出现 ,事件
prevalent adj.	普遍的 ,流行的
herbivore n.	食草动物
carnivore n.	食肉动物
input-output n.	投入产出
descriptive adj.	描述的 ,叙述的
experimental adj.	实验的 ,根据实验的
applicable to	可适用的 ,可应用的
toxic adj.	有毒的 ,中毒的

Part B The Environmental Problems and the Development of Science and Technology

In the era of the rapid development of science and technology , the environmental problems , such as air pollution , noise pollution and greenhouse effect , become more serious. According to this situation , many people blame the use of technology for the current serious environmental problems , which can only be solved by the technology itself. However , various factors , such as technology , benefit and ignorance , result in the environmental problems , which should be solved distinctly according to the



different causes.

To begin with , the use of technology indeed results in some serious environmental problems , which could be better solved through the advance and progress of technology. The introduction of new technology cannot be perfect and possibly brings about some negative effects on the environment. For example , when the scientists invented the air conditioners , they were seeking a material , the chemical nature of which should be very stable , as the cryogen. As a result , this kind of material , Freon , was found , but the nature of stability makes it hard to decompose and thicken the ozonosphere. The change of the ozonosphere leads to the famous greenhouse effect. So the technology primarily results in the global warming , how to prevent this tendency ? The scientists have created a new material , which is cheaper and no harm to the environment , to substitute the Freon. Thus the technology takes part in polluting and resumes the environment.

In addition , the benefits of persons , companies and even countries can drive people to destroy the natural environment and lead to the environmental problems. As we all know , the benefits are put in the first position rather than environment. So when the choice between benefits and environment encounters people , people will have no hesitation to select the former. For instance , some companies directly output the waste industrial water into the river or sea for lower cost of the products. Because the whole equipment and maintenance dealing with pollution are costly. Therefore , to solve this kind of environmental problems should be a compelling force , such as regulations and laws. For example , the Europe claims that all the waste gas of the cars should be lower than the special standard for the waste gas. If the cars cannot attain the general level , selling this kind of cars will not be allowed in Europe. Thus sometimes regulations and laws can be the most effective way to prevent the worse of the environmental problems.

Furthermore , the environmental problems were unpredicted and ignored by people , even scientists. For example , in some developing country many local farmers dramatically cut down and destroy the forest to make more plantations , on which they can plant fruits and vegetables. But they do not realize the great effect of this behavior on the natural environment. Not only this behavior deprives the habitat of many animals , but also leads to the mountain slide , which will likely happen in the rainy reason and kill many people. So it can be conclude that it is hard to foretell what

effect the human behavior will have on the environment. Time will check it and tell people whether it is harmful to the environment. Then people change their mind about the behavior and resume the original environment. For instance, the government of some developing country has carried out the police of returning the ground back to the forests. As a result, learning through time can help people solve the environmental problems caused by ignorance of the result of some human behaviors.

In sum, various factors, such as technology, benefit and ignorance, result in the environmental problems, which should be solved distinctly according to the different causes. The appearance and solution of environmental problems is inevitable in the advance of the society.

Part C 专业英语常用词缀(prefix, suffix)

1. 名词前缀

前缀	意义	词例
aero-	空气	aeroplane 飞机 airport 机场
auto-	自己,自动	automation 自动化 autoalarm 自动报警
bi-	双,二	binary 二进制 bichloride 二氯化物
bio-	生物	biodegradation 生物降解 biosphere 生物圈
by-	边,侧,偏,副	by-product 副产品 by-effect 副作用
centi-	百分之一	centimeter 厘米 centigrade 百分度的,摄氏温度的
counter-	反抗,对应	counteraction 反作用 counterspy 反间谍
deci-	10%,十分之一	decigram 十分之一克 decimeter 分米
di-	二,双,偶	dimer 二聚物 dioxide 二氧化碳
hecto-	一百	hectowatt 百瓦 hectoamper 一百安培
hexa-	六	hexagon 六角形 hexavalence 六价
in-	入	input 输入 intake 吸入
inter-	在...之间,相互	interface 接口 internet 互联网
kilo-	千	kilometer 公里,千米 kilogram 千克



macro-	大	macroclimate 大气候	macroscopy 宏观
milli-	毫,千分之一	milliammeter 毫安表	milligram 毫克
mini-	小	minicomputer 小型计算机	minimum 最小值
mono-	单一	monoplane 单翼飞机	monotone 单调
multi-	多	multiphase 多方面的	multifrequency 多频率
non-	不,非,无	nonmetal 非金属	nonstandard 非标准
poly-	多,复,聚	polycrystal 多晶体	polymer 聚合体
post-	后	postscript 附言,附录	postfix 后缀
re-	再,重	reproduction 再生产	renew 更新
semi-	半	semiconductor 半导体	semidiameter 半径
sub-	子,亚,次	subprogram 子程序	subtitle 副标题
super-	超	supersonic 超音速的	supersaturate 使过饱和
tri-	三	triangle 三角形	tricycle 三轮脚踏车
tele-	远	telescope 望远镜	teleswitch 遥控开关
ultra-	超	ultrahigh frequency 超高频	ultrafiltration 超滤作用
vice-	副,次,代理	vice-chairman 副主席	vice-manager 副经理

2. 名词后缀

后缀	意义	词例
-acity	表示性质,状态	capacity 容量
-acy	表示性质,状态	determinacy 确定性
-age	表示抽象概念 (如性质,状态等)	voltage 电压
-al	表示行为	refusal 拒绝 proposal 提议 removal 除去
-ance, -ence	表示性质,状态	resistance 电阻 difference 差别
-ency	表示状态,品质	efficiency 效率,功效
-cy	表示性质,状态	accuracy 精确度