

The background features a dark gray upper section and a white lower section separated by a curved line. A network diagram with nodes and connecting lines is visible in the top right and bottom right areas.

Unit 1

New Start

The First Industrial Revolution used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and information technology to automate production.

— *Klaus Schwab*

The number one benefit of information technology is that it empowers people to do what they want to do. It lets people be creative. It lets people be productive. It lets people learn things they didn't think they could learn before, and so in a sense it is all about potential.

— *Steve Ballmer*

Preview

The information technology (IT) industry has become one of the most robust industries in the world. IT, more than any other industry or economic facet, has increased productivity, particularly in the developed world, and therefore is a key driver of global economic growth. Economies of scale and insatiable demand from both consumers and enterprises characterize this rapidly growing sector.

Both software development and the hardware involved in the IT industry include everything from computer systems, to the design, implementation, study and development of IT and management systems. Owing to its easy accessibility and the wide range of IT products available, the demand for IT services has increased substantially over the years. The IT sector has emerged as a major global source of both growth and employment.

Section



Pre-reading Activities

1. The following are some common IT careers and their job responsibilities. Match each of the job titles with its main role.

(1) Computer programmer

(2) Software developer

(3) Technical consultant

(4) Chief information officer

(5) Chief technology officer

(6) System administrator

A. This person is concerned with facets of the software development process, including the research, design, programming, and testing of computer software.

B. This person analyzes an organization's computer systems and recommends ways to make the business run more efficiently.

C. This person is responsible for the upkeep, configuration, and reliable operation of computer systems, especially multi-user computers, such as servers.

D. This person designs, writes and tests computer programs.

E. This person provides help and advice to consumers or organizations that are using computer software or equipment.

F. This person works in the classroom and the computer lab to give students the skills they need to enter the technology industry with confidence.

(7) Computer systems analyst

G. This person is responsible for the information technology and computer systems that support enterprise goals in a company.

(8) Information technology trainer

H. This person sets all technology goals and policies within an organization.

2. *Work in pairs and discuss the following questions.*

- (1) Do you think studying IT courses will be different from studying the other courses in college? Why or why not?
- (2) In the future, which IT career do you expect to engage in? Why?

Text A

What Does It Mean to Study Information Technology?¹

1. A degree in information technology can prepare you for an exciting career in a variety of **industries**. As information technology (IT) plays an increasingly important role in business, employers search for skilled workers with experience in **handling** information technology hardware and software.

2. Whether you are a student graduating directly from high school or a working **professional yearning** for **upward mobility**, the right technology degree program waits for you. From traditional colleges and universities to **accredited** online and distance learning degree programs, you can take advantage of educational opportunities that suit every **budget** and **schedule**.

3. So, what is information technology? IT is the study of how computers process and manage all manner of information. IT professionals work in all kinds of industries, designing hardware, software, communications networks, Internet applications, and more. Because of the broad range of opportunities **available** to information technology professionals, a degree in information technology can help nearly anyone with an interest in computers find a job they are qualified for in an industry they find exciting.

4. Students who earn information technology degrees can **excel** at a variety of jobs right out of college. Graduates with strong people skills can work at information technology services help desks or at customer service call centers. **Creative** specialists can design **microchips** or new software. Skilled multi-taskers can **juggle** the management of an entire computer network for a company.

5. The broad information technology field allows students to bring their general computer knowledge into a variety of **specialized niches**. The world of information technology is always

¹ This text material is retrieved at <http://www.worldwidelearn.com/online-education-guide/technology/information-technology-major.htm>.

growing and changing, so learning how to keep up with the pace of technology is one of the most important things students learn when **enrolled** in a degree program.

6. The fast pace at which technology changes means that many different types of people are required to specialize in a variety of different areas, providing plenty of opportunities for everyone. It is much easier to keep up with one **aspect** of technology than with all of them. Therefore, it is important for specialists in different fields to communicate with each other. They have to be able to communicate with their **colleagues** in a clear, patient fashion. This requires good people skills and excellent communication abilities, whether it is in-person, over the phone, or via e-mail.

7. Students who **pursue** college degrees in information technology tend to be natural problem solvers. While computers help **streamline** business to an amazing degree, they can also slow things down if they aren't working **properly**. Thinking on your feet, being able to **identify**, locate, and fix problems in a **timely** fashion are essential skills for working professionals in the information technology industry.

8. Information technology professionals also tend to spend a lot of time at the **keyboard** and in front of the computer screen. This means having good **manual dexterity**, typing skills, and hand-eye **coordination**. Students who pursue degrees in information tend to already have these skills. If they don't, they'd better develop them quite rapidly.

9. Here are some examples of the skills and **characteristics** students enrolled in information technology degree programs typically **possess**.

- **Troubleshooting**

- Problem solving
- Typing skills
- Communication abilities
- Computer **literacy**
- Patience
- Manual dexterity
- **Logical** thinking
- **Critical** thinking
- Creative thinking
- Technical writing skills
- Interest in changing and developing technologies

10. Working professionals in any industry can benefit from information technology training. Staying current on trends in technology and the changing online environment can increase job **security** and upward mobility. Employers consider people with advanced computer knowledge

and experience an essential part of keeping their companies **competitive** in the Internet Age.

11. Imagine this situation: Two men work for a large **construction** materials supplier. Both men have been at the company for the same number of years, and both are committed, **dedicated** workers. A **managerial** position has opened up, and both are under consideration for the **promotion**. The men seem equally qualified as far as experience, attitude, and dedication. But, one man recently earned an accredited online degree in information technology. Which employee do you think will get the promotion?

12. A degree in information technology won't get you every promotion you want, but it can give you the edge you need over others competing for the same position. No matter what industry you work in, you can rest assured that your company uses information technology in a number of ways. From streamlining order-processing systems to increasing customer service, information technology is moving to the leading **edge** of industry in general.

(754 words)

③ New Words

industry /'ɪndəstri/

- n.* 1. [C] the people and activities involved in producing a particular thing, or in providing a particular service 行业 2. [U] (branch of) manufacture or production 工业

handle /'hændl/

- vt.* to deal with, manage or control (people, a situation, a machine, etc.) 对付、管理或控制
- n.* [C] part of a tool, cup, bucket, door, drawer, etc., by which it may be held, carried or controlled (工具、杯、桶、门、抽屉等的) 柄; 把手; 拉手

professional /prə'feʃnəl/

- n.* [C] 1. person who does a job that needs special training and a high level of education 专门人员; 专业人士; 专家 2. person who does a sport or other activity as a paid job rather than as a hobby 职业运动员; (从事某活动的) 专业人员
- a.* 1. connected with a job that needs special training or skill, esp. one that needs a high level of education 职业的; 专业的 2. showing that sb. is well trained and extremely skilled 娴熟的; 训练有素的; 精通业务

yearn /jɜ:n/

- vi.* to desire strongly or with compassion or tenderness; to be filled with longing 渴望; 盼望

upward /'ʌpwəd/

- a.* 1. pointing towards or facing a higher place 向上的; 向高处的 2. increasing in amount or price (数量、价格) 上升的; 上涨的; 增长的

mobility /məu'biliti/

- n.* [U] the ability to move easily from one place, social class, or job to another 流动能力; 移动性

- accredit** /ə'kredit/ *vt.* 1. to officially approve sb. / sth. as being of an accepted quality or standard 经官方认可 2. (usu. passive) to believe that sb. is responsible for doing or saying sth. 把……归于; 认为(某事为某人所说、所做)
- budget** /'bʌdʒɪt/ *n.* [C] estimate or plan of how money will be spent over a period of time, in relation to the amount of money available 预算
vt. to plan the spending of or provide (money) in a budget 将(款项)编入预算
- schedule** /'fedʒu:l/ *n.* 1. [C, U] plan that gives a list of events or tasks and the times at which each one should happen or be done 工作计划; 日程安排 2. [C] written list of things, for example prices, rates or conditions (价格、收费或条款等的)一览表; 明细表; 清单
- available** /ə'veɪləbl/ *a.* 1. (of things) that can be used or obtained (指物) 可用的或可得到的 2. (of people) free to be seen, talked to, etc. (指人) 可会见的; 可与之交谈的等
- excel** /ɪk'sel/ *vi.* to be exceptionally good at sth. 擅长
- creative** /kri'eɪtɪv/ *a.* 1. of or involving creation 创造的; 创造性的; 创作的 2. able to create 有创造力的
- microchip** /'maɪkrəʊtʃɪp/ *n.* [C] very small piece of silicon or similar material carrying a complex electrical circuit 微芯片; 微型集成电路片
- juggle** /'dʒʌɡl/ *v.* 1. to organize information, figures, money, etc. in the most useful or effective way 有效地组织; 有效利用 2. to throw a set of three or more objects such as balls into the air and catch and throw them again quickly, one at a time 玩杂耍(连续向空中抛接多个物体)
- specialized** /'speʃəlaɪzd/ *a.* designed or developed for a particular purpose or area of knowledge 专用的; 专业的; 专门的
- niche** /nɪʃ/ *n.* [C] suitable or comfortable position, place, job, etc. 适合的或舒适的位置、地方、职业等
- enroll** /ɪn'rəʊl/ *v.* to become or make (sb.) a member (of sth.) 登记; 注册
- aspect** /'æspekt/ *n.* 1. [C] particular part or feature of sth. being considered 方面 2. [C, usu. sing.] side of a building that faces a particular direction (建筑物的) 方向; 方位
- colleague** /'kɒliːɡ/ *n.* [C] person with whom one works, esp. in a profession or business 同事; 同僚
- pursue** /pə'sjuː/ *vt.* 1. to do sth. or try to achieve sth. over a period of time 追求; 致力于; 执行 2. to follow (sb. / sth.), esp. in order to catch or kill; chase 追赶; 追逐
- streamline** /'striːmlaɪn/ *vt.* 1. to make (sth.) more efficient and effective, eg. by improving or simpli-fying working methods 使(某事物)效率更高、作用更大 2. to give a streamlined form to (sth.) 使(某物)成流线型

properly /'prɒpəli/	<i>ad.</i> in a proper manner 恰当地 ; 体面地
identify /ai'dentɪfaɪ/	<i>vt.</i> to show, prove, etc. who or what sb. / sth. is; recognize sb. / sth. (as being the specified person or thing) 确认某人 / 某事物 ; 鉴别出 (系某人或某物)
timely /'taɪmli/	<i>a.</i> occurring at just the right time; opportune 及时的 ; 适时的 ; 合时宜的
keyboard /'ki:bɔ:d/	<i>n.</i> [C] set of keys on a computer, typewriter, etc. 键盘
manual /'mænjuəl/	<i>a.</i> 1. operated or controlled by hand rather than automatically or using electricity, etc. 手动的 ; 手控的 ; 用手操作的 2. involving using the hands or physical strength 用手的 ; 手工的 ; 体力的
dexterity /dek'sterəti/	<i>n.</i> [U] skill in using one's hands or sometimes mind (手或心思) 灵巧
coordination /kəu,ɔ:di'neiʃən/	<i>n.</i> [U] organizing the activities of two or more groups so that they work together efficiently and know what the others are doing 协作 ; 调和
characteristic /,kærəktə'ristɪk/	<i>n.</i> [C] distinguishing feature 特性 , 特色 , 特征
possess /pə'zes/	<i>a.</i> very typical of sth. or of sb.'s character 典型的 ; 独特的 ; 特有的 <i>vt.</i> 1. to have (sth.) as one's belongings; own 拥有 (某事物) ; 持有 2. to have (sth.) as a quality 具有 (某品质)
troubleshooting /'trʌbəl,ʃu:tɪŋ/	<i>n.</i> [U] the activity or process of solving major problems or difficulties that occur in a company or government 处理重大问题 ; 解决难题
literacy /'lɪtərəsi/	<i>n.</i> [U] ability to read and write 读写能力
logical /'lɒdʒɪkl/	<i>a.</i> 1. in accordance with the rules of logic; correctly reasoned 合逻辑的 ; 推理正确的 2. in accordance with what seems reasonable or natural 合乎情理的 ; 合乎常理的
critical /'krɪtɪkl/	<i>a.</i> 1. looking for faults; pointing out faults 批评的 ; 评判的 2. extremely important because a future situation will be affected by it 极重要的 ; 关键的 ; 至关重要的
security /si'kjʊərəti/	<i>n.</i> [U] 1. freedom or protection from danger or worry 安全 ; 保护 ; 保障 2. measures taken to prevent spying, attacks, theft, etc. (防刺探、攻击、偷盗等的) 安全措施
competitive /kəm'petətɪv/	<i>a.</i> 1. of or involving competition 比赛的 ; 竞争的 2. able to do as well as or better than others 不逊于、胜过或超过他人的
construction /kən'strʌkʃn/	<i>n.</i> 1. [U] the process or method of building or making sth., esp. roads, buildings, bridges, etc. 建筑 ; 建设 2. [C, U] the creating of sth. from ideas, opinions and knowledge 创造 ; 创立 ; 建立
dedicated /'dedi,keɪtɪd/	<i>a.</i> devoted to sth.; committed 专注的 ; 献身的
managerial /,mænə'dʒɪəriəl/	<i>a.</i> of managers or management 经理的 ; 管理的
promotion /prə'məʊʃn/	<i>n.</i> 1. [U] raising or being raised to a higher rank or position 提升 ; 晋级 2. [C, U] advertising or other activity intended to increase the sales of a product 促销 ; 推广

edge /edʒ/

n. [C] 1. outside limit or boundary of a solid (flat) object, surface or area (扁的固体、物体表面或一范围的) 外围界线, 边缘 2. the sharp part of a blade, knife or sword that is used for cutting 刀口; 刀刃; 利刃

⚙ New Expressions

a variety of

various 种种; 各种各样的

take advantage of sb. / sth.

make use of sth. well, properly, etc. 充分利用

all manner of sb. / sth.

every kind of sb. / sth. 各种各样的

excel at sth.

be exceptionally good at sth. 突出; 擅长于

keep up with sb. / sth.

1. move or progress at the same rate (as sb. / sth.) 跟上(某人/某事物); (与某人/某事物) 同步前进 2. inform oneself or learn about (the news, current events, etc.) 知悉(消息); 跟上(形势)

enroll (sb.) in sth.

become or make (sb.) a member of sth. 登记; 注册; 成为成员

slow (sth.) down

1. (cause sth. to) go at a slower speed (使某事物) 缓行, 减速
2. become less active 放松下来

think on one's feet

be quick on the draw, responsive 头脑反应很快; 思维敏捷; 立刻作出回答

give sb. the edge over sb. / sth.

have a slight advantage over sb. / sth. 使某人比……略胜一筹

rest assured (that...)

be certain that... 放心; 确信无疑

in general

mainly; mostly; usually 总的说来; 大体上; 通常

Reading Comprehension

Understanding the text

1. Answer the following questions.

- (1) What is information technology?
- (2) According to the text, which industries could IT professionals work in?
- (3) Why is it important for IT students to learn how to keep up with the pace of technology?
- (4) What important qualities are required for IT specialists in different fields to work together?
- (5) What essential skills do IT professionals need to solve problems properly and efficiently?
- (6) Since IT professionals spend a lot of time at the keyboard and in front of the computer screen, what skills should IT students develop in college?
- (7) For employers, what kind of employees will help keep their companies competitive in the Internet Age?

- (8) In Paragraph 11, which employee do you think will get the promotion? Why?

Critical thinking

2. *Work in pairs and discuss the following questions.*

- (1) Why do you choose to pursue a college degree in information technology?
- (2) What does it mean to you to study IT in college?
- (3) What abilities or skills do you expect to develop in college?
- (4) As an IT student, do you expect your life in college will be quite different from that in high school? Why?
- (5) How do you understand the skills and characteristics acquired by students in the IT degree programs as mentioned in the text?

Language Focus

Words in use

3. *Fill in the blanks with the words given below. Change the form where necessary. Each word can be used only once.*

handle	budget	available	excel	specialize
enroll	identify	possess	literacy	promotion

- (1) In Beijing and Shanghai, more than 50% of those aged 18 to 30 have _____ in higher education.
- (2) Does he _____ the necessary patience and tact to do the job well?
- (3) Their business is to help process information and to make a lot of that information _____ to the public.
- (4) Soon after receiving the _____, however, Leslie learned that she was among the lowest paid employees with her job title.
- (5) Letting your bank _____ credit card processing may seem convenient, but that convenience comes at a price.
- (6) To _____ at sales, you first must know your product, and then search out the perfect customers for that product.
- (7) It took a number of years before the Congress was able to pass a law demanding a(n) _____ test for immigrants.

- (8) Some people want high school students to be able to _____ in science during their high school years.
- (9) The agency failed to _____ any specific safety problems or quality concerns, but did release a statement on the matter.
- (10) Greece needs to borrow more than seventy billion dollars this year to finance its _____ and refinance its debts.

Word building

The suffix *-ion* combines with verbs to form nouns. Nouns formed in this way refer to the action, state or condition described by the original verb. There are some variant forms of the suffix *-ion*, such as *-tion*, *-ation*, *-sion*, and *-ition*.

Examples

Words learned	Add <i>-ion</i>	New words formed
promote	→	promotion
construct	→	construction
inform	→	information
communicate	→	communication
possess	→	possession
compete	→	competition

The suffix *-ment* is added to verbs to form nouns. Nouns formed in this way refer to the action or result of what is denoted by the verb.

Examples

Words learned	Add <i>-ment</i>	New words formed
manage	→	management
disappoint	→	disappointment
engage	→	engagement

The suffix *-ance* combines with verbs to form nouns. Nouns formed in this way refer to the state, action, process, or condition indicated by the verb.