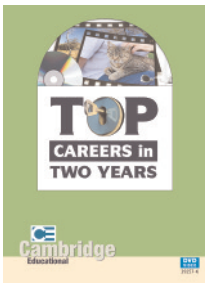

Instructor's Guide

Top Careers in Two Years

COMPUTERS AND INFORMATION TECHNOLOGY

Introduction

This Instructor's Guide provides information to help you get the most out of *Top Careers in Two Years: Computers and Information Technology*. The contents in this guide will allow you to prepare your students before they use the program, assist them as they navigate through the program, and present follow-up activities to reinforce the program's key learning points.

This program is targeted to students in grades 9-12. Its content is appropriate to such curriculum areas as Career and Technical Education, Trade and Industrial Education, and Career Development and Occupational Studies. In addition, the information presented in the program could also be presented in vocational/technical schools or adult education courses.

Learning Objectives

After watching this video program, students will be able to:

- Understand important concepts and skills related to careers in computers and IT.
- Describe the particular personal skills, talents, and interests that are the keys to success in the field of computers and IT.
- Describe what a typical work week encompasses for various jobs in the the field of computers and IT.
- List the duties, functions, and responsibilities of various jobs in the field of computers and IT.
- Understand how two years or less of appropriate education or experience can aid in job placement and career advancement, and explain what a typical career path is for various jobs in this field.

Educational Standards

This program correlates to all applicable National and State Educational Standards including the NCLB Act. Its content correlates to the National Career Development Standards from the National Occupational Information Coordinating Committee, the National Standards for Life Work, and the National Communication Association's Speaking, Listening, and Media Literacy Standards. The content has also been aligned with the U.S. Department of Education's Arts, Audio/Video Technology, and Communication (AAVC) Career Cluster. On the state standards level, the program correlates to, among others, the Texas Essential Knowledge and Skills (TEKS) for Career Orientation Standards, and the North Dakota Career Development Content Standards.

National Career Standards from the National Occupational Information Coordinating Committee

COMPETENCY IV: Understanding the relationship between educational achievement and career planning. The student will be able to demonstrate how to apply academic and vocational skills to achieve personal goals; describe the relationship of academic and vocational skills to personal interests; describe how education relates to the selection of college majors, further training, and/or entry into the job market; demonstrate transferable skills that can apply to a variety of occupations and changing occupational requirements; and describe how learning skills are required in the workplace.

COMPETENCY VI: Skills to locate, evaluate and interpret career information. The student will be able to describe the educational requirements of various occupations; demonstrate use of a range of resources (e.g. handbooks, career materials, labor market information, and computerized career information delivery systems); demonstrate knowledge of various classification systems that categorize occupations and industries (e.g. Dictionary of Occupational Titles); describe the concept of career ladders; describe the advantages and disadvantages of self employment as a career option; identify individuals in selected occupations as possible information resources, role models, or mentors; and describe the impact of population, climate, and geographic location on occupational opportunities.

COMPETENCY VII: Skills to prepare to seek, obtain, maintain, and change jobs. The student will be able to demonstrate skills to locate, interpret, and use information about job openings and opportunities; demonstrate academic or vocational skills required for a full- or part-time job; demonstrate skills and behaviors necessary for a successful job interview; demonstrate skills in preparing a resume and completing job applications; identify specific job openings; demonstrate employability skills necessary to obtain and maintain jobs; demonstrate skills to assess occupational opportunities (e.g., working conditions, benefits, and opportunities for change); describe placement services available to make the transition from high school to civilian employment, the armed services, or post-secondary education/training; demonstrate an understanding that job opportunities often require relocation; and demonstrate skills necessary to function as a consumer and manager of financial resources.

National Career Development Standards

1. Students will acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the life span.
2. Students will complete school with the academic preparation that is essential to choose from a wide variety of substantial postsecondary options, including college.
3. Students will understand the relationship of academics to the world of work, and to life at home and in the community.
4. Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed decisions.
5. Students will employ strategies to achieve future career success and satisfaction.
6. Students will understand the relationship between personal qualities, education and training, and the world of work.

National Communication Association's Speaking, Listening, and Media Literacy Standards

Fundamentals of Effective Communication

- Effective communicators can demonstrate knowledge and understanding of the relationships among the components of the communication process; the variables influencing the effectiveness of the components of the communication process; the various levels of the meanings of messages; the role of personal knowledge and the knowledge of others in the nature and quality of communication; the influence of the individual, the relationship, and the situation on communication choices; the role of communication in the development and maintenance of personal relationships; the role of communication in creating meaning, influencing thought, and making decisions; the role of communication in the democratic process; and the role of personal responsibility in making ethical communication decisions.
- Effective communicators can demonstrate the ability to identify and use communication strategies by taking into consideration individual differences; identify and use communication strategies to enhance relationships and resolve conflict; evaluate the aesthetic and functional value of all types of communication; and show sensitivity to the ethical issues associated with competent and effective communication in society.

Speaking

- The effective speaker can demonstrate knowledge and understanding of the relationships among the components of the speaking process across a variety of contexts; the ability to identify and use effective strategies for formal and informal speaking situations in public, group, work, and personal settings; the ability to use language that clarifies, persuades, and/or inspires while respecting the listeners' backgrounds, including their culture, gender, and individual differences; and the ability to identify and use methods to manage or overcome communication anxiety and apprehension.

Listening
- The effective listener can demonstrate knowledge and understanding of relationships among the components of the listening process across a variety of contexts; the ability to identify and manage barriers to listening; the ability to identify and use different listening skills appropriate for diverse types and purposes of listening; and the ability to receive, interpret, and respond to messages.

Media Literacy
- The effective media participant can demonstrate the effects of the various types of electronic audio and visual media, including television, radio, the telephone, the Internet, computers, electronic conferencing, and film, on media consumers; and the ability to identify and use skills necessary for competent participation in communication across various types of electronic audio and visual media.

Career Cluster from the U.S. Department of Education

AAVC Career Cluster: Jobs in the arts, audio/video technology, and communications career cluster involve designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

Information Technology Career Cluster: Jobs in the information technology career cluster involve the design, development, support, and management of hardware, software multimedia, and systems integration services.

Texas Essential Knowledge and Skills for Career Orientation

Standard 127.12. Analyzes the effect of personal interests and aptitudes upon educational and career planning. Knows how to locate, analyze, and apply career information. Knows that many skills are common to a variety of careers and that these skills can be transferred from one career opportunity to another. Knows the process used to locate and secure employment. Knows the process of career planning. Knows the importance of productive work habits and attitudes.

North Dakota Career Development Content Standards

1.0 PERSONAL SOCIAL DEVELOPMENT

Acquire the knowledge, attitudes, and interpersonal skills that encourage the understanding and respect of self and others, including: developing understanding of self to build and maintain a positive self concept; developing positive interpersonal skills including respect for diversity; integrating personal growth and change into one's career development; and balancing personal, leisure, community, learner, family, and work roles.

2.0 EDUCATIONAL ACHIEVEMENT AND LIFE-LONG LEARNING

Acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the life span, including: attaining educational achievement and performance levels needed to reach personal and career goals; and participating in ongoing, life-long learning experiences to enhance one's ability to function effectively in a diverse and changing economy.

3.0 CAREER MANAGEMENT
Acquire the skills to investigate the world of work in relation to knowledge of self to make informed career decisions, including: creating and managing a plan that focuses on career goals; using a process of decision-making as one component of career development; using accurate, current, and unbiased career information during career planning and management; and mastering academic, occupational, and general employability skills in order to obtain, create, maintain, and / or advance in employment.

Program Overview

Over the course of just a couple of decades, technology has totally transformed the workplace — and the world. This program talks tech with a webmaster, a multimedia specialist, a computer-aided drafter/designer, a network/system administrator, a cybersecurity expert, and a computer repair technician — a few of the people using today's high-end hardware and software to shape the present and create the future.

Main Topics

Topic 1: Introduction
The program opens with examples of how computer technology has revolutionized the way we work, play, learn, and interact.

Topic 2: Top Careers in Computers
Viewers learn how a webmaster, a multimedia specialist, and a computer-aided drafter/designer help keep both companies and consumers happy by marrying content with computer technology.

Topic 3: Top Careers in IT
The program continues by highlighting three top careers in the exciting and cutting-edge field of Information Technology (IT). A network/systems administrator, a cybersecurity expert, and a computer repair technician are interviewed.

Fast Facts

- A computer language called "Short Code" was first proposed in 1949. It was the first computer language for electronic devices, and it required the programmer to change its statements into 0s and 1s by hand.

- Mechanical engineering students at the University of California, Berkeley, create "smart" mechanical engineering products using computer-aided drafting and design (CADD) software. Inventions have included a portable vaccine injector, robotic fish for underwater exploration, a golf trolley, and a mapping robot.

- The World Wide Web was begun by English physicist Tim Berners-Lee and Belgian computer scientist Robert Cailliau in 1990.
- Data was first transmitted between individual computers more than 50 years ago when scientists at MIT set up a network for monitoring U.S. air defense.
- The term "multimedia" was coined in 1962 and used to later describe events like the Exploding Plastic Inevitable, a series of performances organized by artist Andy Warhol. These events combined live rock music, film, dance, experimental lighting, and performance art.
- In a recent FBI survey, 90 percent of companies said they'd had a computer security breach.
- Nanotechnology has been widely depicted in movies and television. Several episodes of the TV show *The Adventures of Jimmy Neutron: Boy Genius* feature nanobots; in the film *The Hulk*, the Hulk is mutated by nanomeds and nanorobots.
- Malware (computer viruses, worms, spyware, and trojan horses) includes devious programs that spread through e-mail and Internet downloads. Malware can destroy files, steal and distribute private information, and otherwise disrupt computer systems.
- Computers are more reliable now than when they were first released to the public. According to a survey by the Gartner market research group, failure rates for desktop computers and portable notebooks have improved over time.
- A vicar in Cardiff, Wales, is offering wireless broadband access from the pews of his church, alongside traditional weddings, christenings, and Sunday services.

Vocabulary Terms

3D modeler: Software used to produce and alter models of various real-world entities in a three-dimensional space. Models can be viewed from a variety of angles, usually simultaneously. Models can be rotated and the view can be zoomed in and out. 3D modelers can export their models to files, which can then be imported into other applications. Some software also contains features that support or allow animation of models and generation of full-motion video of a series of rendered scenes (e.g., animation).

associate degree: An academic degree awarded by community colleges, junior colleges, business colleges, and some bachelor's degree-granting colleges and universities upon completion of a course of study usually lasting two years.

bachelor's degree: An undergraduate academic degree awarded for a course or major that generally lasts for three, four, or in some cases and countries, five or six years.

back end: Any software performing either the final stage in a process, or a task "behind the scenes" that is not apparent to the user. A common usage is in a compiler, which generates machine language and performs optimizations specific to the machine's architecture.

bandwidth: Usually measured in bits-per-second, bandwidth measures the maximum speed at which content can be streamed to individual users over the Internet.

CAD: Computer-aided design. A system, encompassing a combination of hardware and software, which enables engineers and architects to design everything from buildings to vehicles to networks.

client: A software program used to contact and obtain data from a server software program on another computer, often across a great distance. A web browser is a specific kind of client.

cybersecurity: The prevention of unauthorized access and/or damage to computer systems via Internet access.

cyberspace: A term that originated in William Gibson's novel *Neuromancer* but is now used to describe the whole range of information resources available through computer networks accessed over the Internet.

e-commerce: Business that is conducted over the Internet using any of the applications that rely on the Internet. This commerce can be business-to-business (B2B) or business-to-consumer (B2C).

e-learning: Education or training offered via electronic delivery methods, e.g., CD-ROMs, video conferencing, Web sites, and e-mail.

e-mail: Electronic mail messages, usually text, that are sent from one person to another via computer.

graphic design: Any number of artistic and professional disciplines that focus on visual communication and presentation to create and combine symbols, images, and/or words to create a visual representation of ideas and messages. A graphic designer may use typography, visual arts, and page layout techniques to produce the final result.

Graphic User Interface (GUI): A graphical (rather than purely textual) user interface to a computer, e.g., a Web browser. It uses pictorial buttons (icons) and command lists controlled by a mouse, and is generally regarded as easier to learn than command line interfaces, where commands have to be typed.

hacker: A programmer who breaks into computer systems in order to steal, change, or destroy information as a form of cyber-terrorism or identity theft.

hardware: The physical and mechanical components of a computer system, such as the electronic circuitry, chips, monitor, disks, disk drives, keyboard, modem, and printer.

help desk: A service or department within an organization that provides information and assistance to the users of a computer network.

HTML (HyperText Markup Language): The coding language used to create Hypertext documents for use on the World Wide Web.

HTTP (HyperText Transport Protocol): The protocol for moving hypertext files across the Internet; it requires an HTTP client program on one end, and an HTTP server program on the other.

IP (Internet Protocol) number/address: Sometimes called a dotted quad, it is a unique number consisting of 4 parts separated by dots (e.g. 165.187.235.1) given to every machine on the Internet.

ISP (Internet Service Provider): An institution that provides access to the Internet in some form, usually for money.

IT (Information Technology): The branch of engineering that deals with the use of computers and telecommunications to retrieve, store, and transmit information.

intern: One who works in a temporary position within an organization, in order to gain on-the-job training and experience, help determine interest in a particular career, create a network of contacts, and/or gain school credit. Interns are usually college or university students, but they can also be adults seeking skills for a new career.

Internet: The globally interconnected collection of IP protocol based networks that transmit data using the standard Internet Protocol (IP).

Java: A network-oriented programming language invented by Sun Microsystems that is specifically designed for writing programs that can be safely downloaded to a computer through the Internet and immediately run without fear of viruses or other harm to your computer or files.

LAN (Local Area Network): A computer network limited to the immediate area, usually the same building or floor of a building.

Linux: An open-source version of the UNIX operating system.

mentor: Someone who guides, counsels, or teaches another, most often in an occupational setting.

.NET: A generic top-level domain used on the Internet's Domain Name System (DNS).

network: Two or more computers connected together.

open source: Of or relating to computer software for which the source code is freely available.

peer-to-peer (P2P): A method of distributing files over a network where all computers are treated as equals (in contrast to a client/server architecture). Using P2P client software, a client can receive files from another client.

server: A computer or software package that provides a specific kind of service to client software running on other computers.

software: The programs used to direct the operation of a computer, as well as documentation giving instructions on how to use them.

SysOp (system operator): Anyone responsible for the physical operations of a computer system or network resource.

UNIX: A computer operating system (the basic software running on a computer). UNIX is designed to be used by many people at the same time and is the most common operating system for servers on the Internet.

URL (Uniform Resource Locator): The standard way to give the address of any resource on the Internet that is part of the World Wide Web. The most common way to use a URL is to enter into a Web browser program.

Web host: Any computer on a network that is a repository for one or more services available to other computers on the network.

Webmaster: A technician who designs or maintains a Web site.

World Wide Web (WWW): Also known as the "Web," it signifies all of the global resources that can be accessed, as well as the hypertext servers (HTTP servers) that allow text, graphics, sound files, etc. to be mixed together.

Pre-Program Discussion Questions

1. What software programs do you think could help a graphic artist's natural artistic ability to become even better?

2. Why do you think communication skills would be important to a successful career as a computer-aided drafter/designer?

3. To what is the field of IT devoted?

4. What is identity theft? Why has it become such an important issue in today's economy?

5. What do network administrators do? How do you think their jobs differ from those of computer repair technicians?

Post-Program Discussion Questions

1. What is Web mastering? Web hosting? Open source? A user interface? What's the difference between the back end and the front end in computer technology?

2. Which programs would a computer-aided drafter/designer use while on-the-job?

3. In the program, what did the network admin mean by "building bridges"?

4. What is a computer virus? What's the difference between a hacker and a cyberthief?

5. What careers in this cluster do you think will have the most growth potential in the next 20 years? Why?

Individual Student Projects

- Consider your strengths, weaknesses, and interests and list them all in a grid. For which specific profession(s) in this career cluster would each characteristic be ideal? Which professions would be a poor match for the characteristic, and why? Are they more on the artistic side or the technological side of computers and IT? Be specific with detailed examples of each characteristic, presenting your opinions in a paper, multimedia presentation, or video. Then, assess which profession stands out as being the best match for your personality and personal characteristics.

- Does gender ever come into play in the fields of computers and IT when it comes to success and advancement? Why or why not? Try to interview a female professional in either field to find out her perspective; then interview a male and compare their experiences. Share your opinion in a research paper and include how you think being a female or male in a particular role will change in the future and the reasons why the changes will occur.

- Have you ever had an experience with a computer that needed repair, or that was attacked by a malicious virus? Have you yourself or has someone you know personally ever been a victim of identity theft? What happened? How were the problems resolved, and by whom? Could the situation have been handled better? Shed light on the incident and critique the way it was handled, making recommendations on what areas could have been improved and how the improvements would be accomplished.

Group Activities

- Divide the class into two groups:
  Group 1: Computer-Aided Drafter/Designers, Multimedia Specialists, and Webmasters
  Group 2: Network/System Admins, Computer Repair Techs, and Cybersecurity Experts
  Ask Group 1 to discuss the kinds of software they use, and what kinds of problems they could experience that could require assistance from Group 2. Then, ask Group 2 to explain how they would handle and troubleshoot the problems. What hardware and software would be involved? Ensure the groups have dialogues with each other to improve their communication skills when dealing with the issues.

- As a class, debate the subject of art, addressing the following key questions:
  — Is drawing freehand with paint or pencils easier or harder than drawing with a software program (such as Photoshop) on a computer?
  — What are the advantages and disadvantages of each method?
  — Is digital art or traditional art better?
  — How will future technology change what is considered "art"?

- As a class, discuss other career possibilities available in the field of computers and IT that are not addressed in the program. Then, in small groups, research the typical software used and the job responsibilities one might have as a professional in each area. What changes might one see in each career outlook over the course of the next ten years?

Internet Activities

- How have the fields of computers and information technology evolved in the past 50 years? Twenty-five years? Past year? In the past month? Why do innovations seem to happen at a faster rate now as compared to 100 years ago? Do you think the pace will eventually slow down? Why or why not? Create a multimedia presentation and cite specific examples that support your historical perspective and thoughts for the future.

- When did cybersecurity come into being? How do you think it will change in the next century? Use the Internet and the library to trace the history of this still evolving field and write a paper that highlights how careers in this field and the field itself could change in the near and distant future.

- How have careers in architecture been influenced by computer-aided drafting and designing software, such as AutoCAD? Create a presentation with supporting pictures and graphics that highlight your findings.

Assessment Questions

Q1. According to the program, personal computer sales in the U.S. have generated almost how much revenue over the past five years?

a) $75 million
b) $100 million
c) $125 million
d) $145 million

Q2. True or False? A career in art can never be as lucrative as one in business.

Q3. Match each term with its corresponding description.

a) Back end
b) GUI
c) Open source
d) Web host
e) Webmaster

1. Any computer on a network that is a repository for one or more services available to other computers on the network.
2. A technician who designs or maintains a Web site.
3. A graphical (rather than solely textual) user interface to a computer, e.g., a Web browser.
4. Any software performing either the final stage in a process, or a task "behind the scenes" that is not apparent to the user.
5. Of or relating to computer software for which the source code is freely available.

Q4. Which of the following may be drawn using a computer-aided design program such as AutoCAD? (Select all that apply.)

a) Business plans
b) Elevations
c) Flash animations
d) Floor plans

Q5. According to the program, which of the following programs might a computer-aided drafter/designer NOT use while on-the-job? (Select all that apply.)

a) 3D Studio Max
b) AutoCad
c) Excel
d) SQL
e) Word

Q6. According to the program, which of the following would be good avenues for preparing for a career in computer-aided drafting and design? (Select all that apply.)

a) Going to museums
b) Going to architecture exhibits
c) Reading books
d) Reading software instruction manuals
e) Working in an architecture firm

Q7. True or False? In the program, the computer repair technician recommended taking apart one's own computer as a good way to gain an understanding of which parts belong where.

Q8. True or False? Most problems with security in the computer industry relate to errors on workstations.

Q9. What does cybersecurity involve? (Select all that apply.)

a) Distribution of keys to employees for corporate offices
b) General security against hackers
c) General security against malicious intruders
d) Security for accounting systems that involve audits
e) Security for corporate networks to thwart unauthorized use

Q10. In the program, the network/systems administrator talked about "building bridges." What did he mean by this? (Select all that apply.)

a) Communicating with customers
b) Connecting all computers together in a network via cabling
c) Connecting all computers together in a network using a wireless router
d) Sharing knowledge and skills with co-workers in order to solve problems faster

Assessment Questions Answer Key

Q1. According to the program, personal computer sales in the U.S. have generated almost how much revenue over the past five years?

a) $75 million
b) $100 million
c) $125 million
d) $145 million

A1. *The correct answer is d.*

Q2. True or False? A career in art can never be as lucrative as one in business.

A2. *This statement is false. It definitely can be, especially with a two-year jumpstart to kick off the career.*

Q3. Match each term with its corresponding description.

a) Back end
b) GUI
c) Open source
d) Web host
e) Webmaster

1. Any computer on a network that is a repository for one or more services available to other computers on the network.
2. A technician who designs or maintains a Web site.
3. A graphical (rather than solely textual) user interface to a computer, e.g., a Web browser.
4. Any software performing either the final stage in a process, or a task "behind the scenes" that is not apparent to the user.
5. Of or relating to computer software for which the source code is freely available.

A3. *The correct answers are: 1d; 2e; 3b; 4a; 5c.*

Q4. Which of the following may be drawn using a computer-aided design program such as AutoCAD? (Select all that apply.)

a) Business plans
b) Elevations
c) Flash animations
d) Floor plans

A4. *The correct answers are b and d.*

Q5. According to the program, which of the following programs might a computer-aided drafter/designer NOT use while on-the-job? (Select all that apply.)

a) 3D Studio Max
b) AutoCad
c) Excel
d) SQL
e) Word

A5. *The correct answer is d.*

Q6. According to the program, which of the following would be good avenues for preparing for a career in computer-aided drafting and design? (Select all that apply.)

a) Going to museums
b) Going to architecture exhibits
c) Reading books
d) Reading software instruction manuals
e) Working in an architecture firm

A6. *All of these were suggested ways to prepare for such a career.*

Q7. True or False? In the program, the computer repair technician recommended taking apart one's own computer as a good way to gain an understanding of which parts belong where.

A7. *This statement is true.*

Q8. True or False? Most problems with security in the computer industry relate to errors on workstations.

A8. *This statement is false. Most problems with security in the computer industry relate to the network.*

Q9. What does cybersecurity involve? (Select all that apply.)

a) Distribution of keys to employees for corporate offices
b) General security against hackers
c) General security against malicious intruders
d) Security for accounting systems that involve audits
e) Security for corporate networks to thwart unauthorized use

A9. *The correct answers are b, c, d, and e.*

Q10. In the program, the network/systems administrator talked about "building bridges." What did he mean by this? (Select all that apply.)

a) Communicating with customers
b) Connecting all computers together in a network via cabling
c) Connecting all computers together in a network using a wireless router
d) Sharing knowledge and skills with co-workers in order to solve problems faster

A10. *Although having good communication skills with customers is always a good idea, the network/system administrator was referring specifically to d.*

Web Sites

General
- www.bls.gov: U.S. Department of Labor, Bureau of Labor Statistics
- www.careeroverview.com: Career Overview and Research Guide
- www.dol.gov: U.S. Department of Labor
- www.salary.com: Salary.com
- www.nationalbusiness.org: National Business Association
- www.talentzoo.com: Talent Zoo

Computer Programmer
- www.napusa.org: National Association of Programmers
- www.acm.org: Association for Computing Machinery
- www.aitp.org: Association of Information Technology Professionals

Computer-Aided Drafter and Designer
- www.acadia.org: Association for Computer Aided Design in Architecture
- www.cadsociety.org: CAD Society
- www.adda.org: American Design and Drafting Association
- www.caddigest.com: CAD Digest

Webmaster
- www.Webprofessionals.org: World Organization of Webmasters
- www.aaWebmasters.com: American Association of Webmasters
- www.wdda.org: Web Design and Developers Association

Network/Systems Administrator
- www.naspa.com: Network and Systems Professionals Association
- www.usenix.org: USENIX, the Advanced Computing Systems Association
- http://nui.net/cnpa: Computer Network Professionals Association

Multimedia Specialist
- www.stc.org: Society for Technical Communication
- www.itaa.org: Information Technology Association of America
- www.amcomm.org: Association for Multimedia Communications

Cybersecurity Expert
- www.nwcet.org: National Workforce Center for Emerging Technologies
- www.csialliance.org: Cyber Security Industry Alliance

Nanoscience Technician
- www.nsti.org: Nano Science and Technology Institute
- www.nnin.org: National Nanotechnology Infrastructure Network

Computer Systems Installer
- www.asponline.com: Association of Support Professionals
- www.sage.org: The USENIEX Special Interest Group for Sysadmins

Computer Repair Technician
- www.acss.org: Association of Computer Support Specialists
- www.asponline.com: Association of Support Professionals
- www.nwcet.org: National Workforce Center for Emerging Technologies

Wireless Technician
- www.scte.org: Society of Cable Telecommunications Engineers
- www.iscet.org: International Society of Certified Electronics Technicians
- www.gwec.org: Global Wireless Education Consortium
- www.ctia.org: CTIA — The Wireless Association

Additional Resources from www.films.com

A Second Look at Careers

• VHS/DVD/Digital On-Demand
• Viewable/printable instructor's guide online
• Preview clip online at www.filmsmediagroup.com
• Order #: 24604

We've taken 40 occupations from the *Children's Dictionary of Occupations* and brought them to life using real people at work. Students learn about the tools of the trade and the tasks performed on the job. They hear from workers who will tell them how to prepare for each job, including the education and training needed. Best of all, this fast-paced video set encourages students to begin thinking about the future world of work and is an excellent introduction to career days, job fairs, or classroom units on careers. *Careers include* • Aircraft Mechanic • Accountant • Broadcast Technician • Butcher • Carpenter • Chemist • Chiropractor • Dancer • Dentist • EMT • Economist • Farmer • Flight Attendant • Glazier • Home Appliance Repairer • Home Health Aide • Industrial Designer • Information Clerk • Janitor • Judge • Kitchen Worker • Landscape Architect • Lawyer • Mail Carrier • Manicurist • Musician • Nuclear Medicine Technologist • Optometrist • Physical Therapist • Quality Assurance Inspector • Real Estate Agent • Respiratory Therapist • Secretary • Telephone Line Installer • Urban Planner • Vehicle Washer/ Equipment Cleaner • Writer • X-Ray Technologist • Yeoman (Armed Services) • Zoologist. (Two videos, 33 minutes total) © 2000

The Complete Career Clusters

- **VHS/DVD/Digital On-Demand**
- **Closed captioned**
- **Preview clip online at www.filmsmediagroup.com**
- **Correlates to all applicable standards**
- **Order #: 36947**

Covering 16 broad occupational categories, the Career Clusters system offers information on practically every job there is! Each and every Cluster is represented in this outstanding 16-part series-a perfect companion to the Career Clusters Poster Set. Correlates to all applicable standards. A Cambridge Educational Production. The 16-part series includes *Education & Training; Health Services; Information Technology Services; Scientific, Engineering & Technical Services; Transportation, Distribution & Logistics; Law, Public Safety & Security; Agriculture, Food & Natural Resources; Manufacturing; The Arts, Audio Visual Technology & Communications; Hospitality & Tourism; Architecture & Construction; Human Services; Marketing, Sales & Service; Government & Public Administration; Business, Management & Administration; Finance*. (16-24 minutes each) © 2007

Cambridge Career Center

- **CD-ROM (Windows and Macintosh)**
- **Preview clip online at www.filmsmediagroup.com**
- **Correlates to the Life Work standards published in "What Work Requires of Schools" from the Secretary's Commission on Achieving Necessary Skills (SCANS) and The National Career Development Standards.**
- **Order #: 32736**

From aerospace engineer to umpire, the Cambridge Career Center introduces students to more than 1,100 different careers and helps them discover which ones might be right for them. This interactive CD-ROM uses version 5.0 of the U.S. Department of Labor's Occupational Information Network (successor to the time-honored Dictionary of Occupational Titles) — America's primary source of career information. © 2004

Career Clusters Poster Set

- **Sixteen 17" x 22" posters**
- **Correlates to the National Career Development Standards from the National Occupational Information Coordinating Committee**
- **Order #: 36989**

Set includes: Agriculture, Food & Natural Resources; Arts, A/V Technology & Communications; Business, Management & Administration; Architecture & Construction; Education & Training; Finance; Health Science; Hospitality & Tourism; Human Services; Information Technology; Law, Public Safety & Security; Manufacturing; Government & Public Administration; Marketing, Sales & Service; Science, Technology, Engineering & Mathematics; Transportation, Distribution & Logistics. © 2003

The Road to Success: Stories of Career Satisfaction in Popular Fields

- **VHS/DVD/Digital On-Demand**
- **Closed captioned**
- **Preview clip online at www.filmsmediagroup.com**
- **Correlates to all applicable educational standards**
- **Recommended by *Booklist* , *Video Librarian,* and *Educational Media Reviews Online*.**
- **Order #: 36911**

What does Virginia Jose, an art educator at South Bronx Preparatory School, have in common with Paul Orfalea, founder of Kinko's? Or Michele Speer, Nurse Coordinator for the Women's Breast Center at Stamford Hospital, with Brightcove cofounder Bob Mason? Each has created her or his own personal road to career success, overcoming challenges and uncertainties along the way. Use this ten-part series to introduce your students to 22 real people who in following their hearts have found lasting satisfaction in their work. The series includes *Spotlight on Careers in the Arts; Spotlight on Careers in Travel and Hospitality; Spotlight on Careers in Education; Spotlight on Careers in Medicine; Spotlight on Careers in Housing and Real Estate; Spotlight on Careers in Science; Spotlight on Careers in Entrepreneurship; Spotlight on Careers in Food; Spotlight on Careers in Fitness and Sports; Spotlight on Careers in Technology.* (16-21 minutes each) © 2007

Career Options for Women: E-Commerce

- **VHS/DVD/Digital On-Demand**
- **Closed captioned**
- **Preview clip online at www.filmsmediagroup.com**
- **Order #: 37665**

This program features profiles of three women who have forged successful careers in e-commerce: Kerry Sizer, a programmer who has helped shape her company's online business model; Sheila Zoghaib, a Webmaster who administers multimedia learning Web sites; and Barbara-Judith Caron, a Web consultant tasked with staying on top of current trends and tastes in Web site design. Additional information from co-workers and supervisors supplements each job profile. (24 minutes) © 2006

Hackers: Outlaws and Angels

- **VHS/DVD/Digital On-Demand**
- **Preview clip online at www.filmsmediagroup.com**
- **Correlates to educational standards and is aligned with textbooks**
- **Order #: 31018**

Through interviews with frontline personnel from the Department of Defense, NYPD's computer crime squad, private detective firm Kroll Associates, X-Force Threat Analysis Service, and several notorious crackers, this program provides penetrating insights into the millions of hack attacks that occur annually in the U.S.—including one that affected the phone bills of millions and another that left confidential details of the B-1 stealth bomber in the hands of teenagers. The liabilities of wireless networks, the Code Red worm, and online movie piracy are also discussed. A Discovery Channel Production. (51 minutes) © 2002

Internet Careers: Front-End, Back-End & E-Everywhere

- **VHS/DVD/Digital On-Demand**
- **Closed captioned**
- **Correlates to educational standards and is aligned with textbook data**
- **Viewable/printable instructor's guide online**
- **Order #: 39108**

E-commerce, e-learning, e-zines, eBay-what's the common denominator? The "e" of course! But in today's fast-paced, highly connected world, that "e" doesn't just stand for "electronic"; it stands for "everywhere" as more and more people link up online. This program travels the Web to explore Internet careers in three main areas: the front end, the back end, and everywhere in between. Front-end insights come from a programmer, a graphic designer, and a quality assurance tester; back-end information is provided by a Webmaster, a help desk specialist, and a sales associate; and an IT recruiter, an advertising sales rep, and an entrepreneur explain how they've integrated the Internet into their careers. Recommended for high school and college. A Cambridge Educational Production. (24 minutes) © 2008