

Preparing for
Career Success in
Information Technology



How to Pursue an Education in Information Technology

IT careers involve the design, development, support and management of hardware, software, multimedia and systems integration services. The IT industry is a dynamic and entrepreneurial working environment that has a revolutionary impact on the economy and society. In addition to careers in the IT industry, IT careers are available in every sector of the economy—from Financial Services to Medical Services, from Business to Engineering and Environmental Services.

Anyone preparing for an IT career should have a solid grounding in math and science.

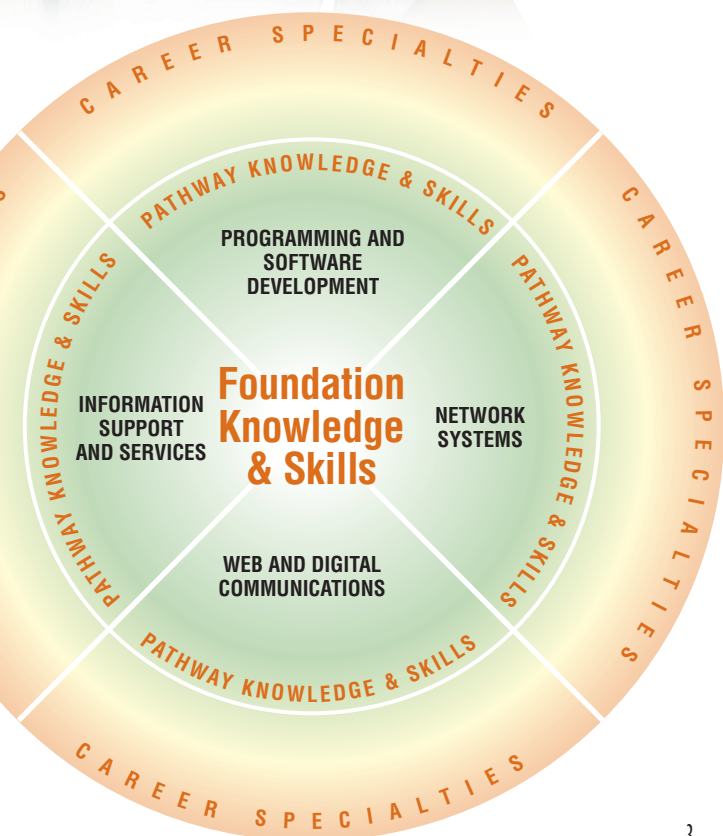
A career in IT is challenging and ever-changing. Those who pursue jobs in the IT sector will quickly discover ongoing opportunities to learn about and work with exciting new technologies that are transforming our

world. IT education can be obtained in four-year colleges, two-year community colleges, technical colleges and institutes, and high schools. Even in times of economic downturn, there is still a large market for people with IT skills in organizations of all sizes.



Career Pathways at a Glance

Information Technology careers are divided into four pathways: Network Systems, Information Support and Services, Programming and Software Development, and Web and Digital Communications. Each of these pathways offers exciting and challenging career opportunities. The knowledge and skills identified form a strong foundation for success whether in a postsecondary institution, high school or at the workplace.



Network Systems

Overview

Careers in Network Systems involve network analysis, planning and implementation, including design, installation, maintenance and management of network systems. Successful establishment and maintenance of information technology infrastructure is critical to the success of almost every 21st century organization.

People with expertise in Network Systems are in high demand for a variety of positions in organizations of all sizes and types, doing work such as creating and maintaining the infrastructure in medical facilities that enables multiple doctors to view the same patient's X-rays in real-time to determine the diagnosis and the best treatment.

Sample Occupations

- Network Administrator
- Network Technician
- PC Support Specialist
- Telecommunications Network Technician
- Data Communications Analyst
- Security Administrator



Credentials

- CompTIA/Network+
- Cisco Certified Network Associate
- Microsoft Certified Systems Engineer (MCSE)



- Certified Novell Engineer (CNE)
- Nortel NetKnowledge Certification
- CompTIA/Security+

Job Outlook

Over 122,000 jobs in Networking Systems are projected immediately. Job growth will be faster than average through 2012.



Information Support and Services

Overview

Careers in Information Support and Services involve IT deployment, including implementing computer systems and software, providing technical assistance and managing information systems.

Successful IT deployment — implementation of computer systems and software, provision of technical assistance, creation of technical documentation and management of information systems — is critical to the success of most 21st century organizations.

People with expertise in Information Support and Services are in high demand for a variety of positions in organizations of all sizes and types, doing work such as integrating multiple databases at a global investment company, enabling employees

to share information between the New York, Paris and Hong Kong offices and improving service to customers.



Sample Occupations

- Database Administrator
- Enterprise Systems Engineer
- Help Desk Specialist
- Technical Support Engineer
- Technical Writer
- Instructional Designer
- Application Integrator

Credentials

- Oracle Certified Professional
- CompTIA A+ Certification
- Microsoft Certified Database Administrator
- Associate Degree of Science in Technical Support
- Bachelor of Science in Information Science

Job Outlook

Over 216,000 jobs in Information Support and Services are projected immediately. Expect 21 to 35 percent job growth to 2012.



Programming and Software Development

Overview

Careers in Programming and Software Development involve the design, development, implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development. People with expertise in programming and software development work with cutting-edge technologies to develop tomorrow's products for use by businesses and consumers.

While many of the career opportunities in this area are in software companies, large organizations of other types—such as Financial Services and Business—also offer many opportunities. People

with expertise in programming and software development are in high demand, doing work such as creating the software that launches and runs NASA space shuttles.



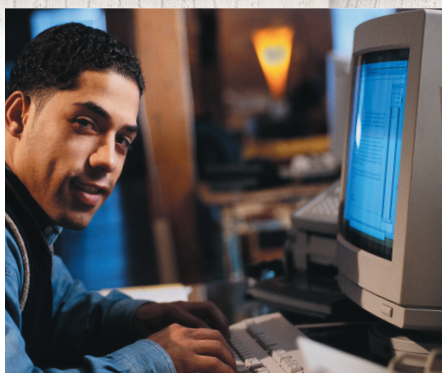
Sample Occupations

- Software Applications Architect
- Operating Systems Designer/Engineer
- Computer Programmer
- Game Programmer
- Applications Engineer



Credentials

- Microsoft Certified Solutions Developer
- Associate/Bachelor of Science in Real-Time Interactive Simulation
- Bachelor of Science in Computer Science
- Bachelor of Science in Information Science
- Master of Science in Computer Science
- Sun-Java Developer Certification



Job Outlook

Over 246,000 jobs in Programming and Software Development are projected through 2012. Pro-

gramming will grow by 10.6 percent, and jobs for Computer Software Engineers will increase by 62 percent.

Web and Digital Communications

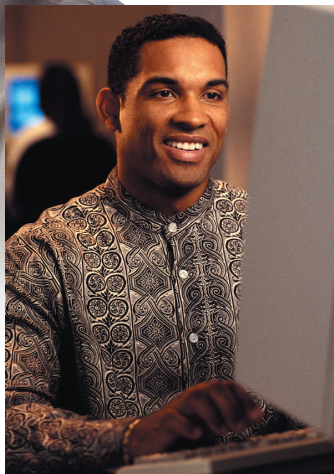
Overview

Careers in Web and Digital Communications involve creating, designing and producing interactive multimedia products and services, including development of



digitally-generated or computer-enhanced media used in business, training, entertainment, communications and marketing.

Organizations of all types and sizes use digital media (the World Wide Web, CD-ROM, DVD) to communicate with existing and potential customers, to track transactions, and to collaborate with colleagues. Web and digital communications experts can find employment opportunities in organizations of all sizes and types,



doing work such as creating e-business auction Web sites that allow people around the world to buy and sell items in real-time.

Sample Occupations

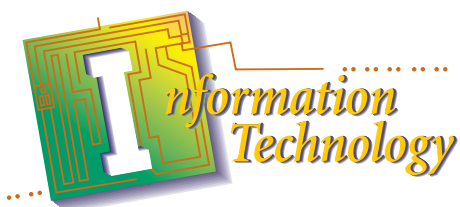
- Web Designer
- Webmaster
- 3D Animator
- Virtual Reality Specialist
- Multimedia Producer
- Graphic Artist

Credentials

- Certificate of Webmaster Technology
- CompTIA I-Net+
- iGeneration™ Certified Creative Producer
- WOW (World Organization of Webmasters) Certified Professional Webmaster
- Associate/Bachelor's degree in Multimedia Communications

Job Outlook

Over 195,000 jobs in Web and Digital Communications are projected immediately. Job growth will increase by 35.6 percent from 2004-2014.



The 16 Career Clusters

Agriculture, Food & Natural Resources
Architecture & Construction
Arts, A/V Technology & Communications
Business Management & Administration
Education & Training
Finance
Government & Public Administration
Health Science
Hospitality & Tourism
Human Services
Information Technology
Law, Public Safety, Corrections & Security
Manufacturing
Marketing
Science, Technology, Engineering & Mathematics
Transportation, Distribution & Logistics



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