INFORMATION & COMMUNICATION TECHNOLOGY INDUSTRY SECTOR

From conquering disease to eliminating hunger, from improving education to protecting the environment-information technology is key to finding positive solutions. Information and Communication Technology spans almost all areas of business. Qualified Information and Communication Technology professionals are in high demand. Computers are everywhere in our professional and personal lives, and people who can help those computers communicate with us--and with each other--are in high demand. If you want to know computers inside and out, the Information Technology Industry career pathway might be perfect for you.

Information and Communication Technologies (ICT) have expanded the need for employees who can understand, manage, and support rapidly emerging, evolving, and converging computer, software, networking, telecommunications, internet, and information systems. Essential skills for careers in the ICT sector include understanding systems that support the management and flow of data, the ability to work well and communicate clearly, and the ability to manage projects efficiently. The ICT sector meets national criteria for high demand, high wages, and high skills and provides students with excellent opportunities for interesting work and good pay.

IS THIS INDUSTRY SECTOR A GOOD MATCH FOR YOU?

Are you?

- Orderly and organized
- Good at solving puzzles
- Interested in tinkering with electrical equipment
- Comfortable in a fast-paced work environment

Do you?

- Enjoy playing video games
- Like working on creative teams to develop cutting-edge products
- Keeping computer and networks operating in a variety of industries including healthcare, education, finance and entertainment
- Enjoy explaining technology to non-technology users

EDUCATION LEVEL AND RELATED OCCUPATIONS

High School Diploma

Administrative Assistant
Computer Operator
Web Page Developer

Certificate and/or Associate Degree

Desktop Publisher Computer
Graphic Artist
Web Designer

Bachelors+ Degree

Software Engineer
Graphic Designer
Network Manager

FOR MORE INFORMATION ON THE INFORMATION & COMMUNICATION TECHNOLOGY INDUSTRY SECTOR, GO TO THE CALIFORNIA CAREERZONE.

CAREER PATHWAYS

INFORMATION SUPPORT AND SERVICES

Students in the Information Support and Services pathway prepare for careers that involve the implementation of computer services and software, support of multimedia products and services, provision of technical assistance, creation of technical documentation, and the administration and management of information and communication systems. Mastery of information and communication technologies is the foundation for all successful business organizations today. Persons with expertise in information and communication technologies support and services are in high demand for a variety of positions in business and industry.

Sample occupations associated with this pathway:

- Computer and Information Systems Manager
- Database Administrator
- Document Management Specialist
- Business Intelligence Analyst

NETWORKING

Students in the Networking pathway prepare for careers that involve network analysis, planning, and implementation, including the design, installation, maintenance, and management of network systems. The successful establishment, maintenance, and securing of information and communication technologies infrastructure is critical to the success of every 21st-century organization. Employment continues to grow for persons with expertise in networking.

Sample occupations associated with this pathway:

- Computer Security Specialist
- Network Engineer
- Network Administrator
- Telecommunication Specialist

SOFTWARE AND SYSTEMS DEVELOPMENT

Students in the Software and Systems Development pathway prepare for careers related to computer science that involve the design, development, implementation, maintenance, and management of systems that rely on software programs to satisfy the operational needs of modern business organizations. Persons with expertise in systems development and programming are critical to support operations like electronic commerce, medical records management, retail sales, inventory management, digital entertainment, and use of energy.

Sample occupations associated with this pathway:

- Computer Programmer
- Software Developer/Applications
- Information Security Analyst
- E-Business/E-Commerce Specialist

GAMES AND SIMULATION

Students in the Game and Simulation pathway learn relevant technical knowledge and skills to prepare for further education and careers such as Game/Simulation Designer, Game Programmer, and Game Software Developer. Game and simulation design requires that students have a solid foundational understanding of game design, hardware, graphics, and animation. Persons with expertise in game and simulation design have had practical experiences in game/simulation conceptualization, design, storyboarding, development methodologies, essential programming techniques, working with a team, and implementation issues.

Sample occupations associated with this pathway:

- Game/Simulation Designer
- Game Software Developer
- Game Producer
- Multimedia Artist and Animator