



Information Technology Industry Sector

Information Technology (IT) careers involve the design, development, support, and management of hardware, software, multimedia, and systems integration services. The IT industry offers a dynamic and entrepreneurial working environment that has had a revolutionary impact on the economy and on society. IT careers are available not only in the IT industry but also in every other sector of the economy, from Agriculture and Natural Resources to Transportation. Employment for IT support specialists is expected to increase faster than the average for all other occupations (by 18.5 percent by 2012) as organizations continue to adopt and integrate increasingly sophisticated technology. The IT sector contains some of the fastest-growing industries, such as software publishing, Internet publishing, service providers, Web search portals, and data-processing services.

Information Technology careers are divided into four pathways: Information Support and Services, the foundation of all successful business organizations today; Media Support and Services, involving the creation, design, and production of multimedia products and services; Network Communications, involving network analysis, planning, and implementation; and Programming and Systems Development, involving the design, development, and implementation of computer systems and software.

Information Technology Industry Sector Pathways:

- *Information Support and Services*
- *Media Support and Services*
- *Network Communications*
- *Programming and Systems Development*

Entry Level Careers

(with high school diploma)

Help Desk Specialist
Computer Repairer
LAN Maintenance Technician
Production Technician
Web Page Developer
Computer Operator
Word Processing Operator

Technical Level Careers

(with AA or AS degree or certificate)

Computer Support Specialist
LAN Support Technician
Software/Hardware Installer
Telecommunications Specialist
Network Administrator
Data Communications Specialist
Computer Graphic Artist
Desktop Publisher
Multimedia Specialist
Web Designer
Webmaster
Database Administrator
Technical Writer

Professional Level Careers

(with BS or BA degree)

Computer Programmers
Computer Security Specialist
Database Administrators
Software Engineers
Information Systems Architect
Telephony System Administrator
Tower Project Coordinator
Systems Engineer
Network Analyst
Graphic Designer
Multimedia Artist/Animator
Web Architect
Corporate Communications Manager

Information Support and Services Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> Business Communication Computer Applications Keyboarding 	<ul style="list-style-type: none"> Office Technology 	<ul style="list-style-type: none"> Microsoft Office Specialist Certification 	<ul style="list-style-type: none"> Administrative Assistant Help Desk Support Technician Word Processing Operator 	<ul style="list-style-type: none"> Desktop Publisher Information Systems Specialist Database Administrator Technical Writer 	<ul style="list-style-type: none"> Software Engineer Information Systems Architect IT Manager/Director Business Teacher

Media Support and Services Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> Computer Application Introduction to Business Introduction to Desktop Publishing 	<ul style="list-style-type: none"> Desktop Publishing Web Design 	<ul style="list-style-type: none"> Multimedia and Image Management Advanced Web Design 	<ul style="list-style-type: none"> Computer Operator Production Technician Web Page Developer 	<ul style="list-style-type: none"> Computer Graphic Artist Desktop Publisher Multimedia Specialist Web Designer Webmaster 	<ul style="list-style-type: none"> Graphic Designer Multimedia Artist Multimedia Producer Web Architect Corporate Communications Manager

Network Communications Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> Keyboarding Computer Applications 	<ul style="list-style-type: none"> Advanced Computer Operations Network Systems I 	<ul style="list-style-type: none"> Network Systems II 	<ul style="list-style-type: none"> Network Systems Assistant Network Systems Technician 	<ul style="list-style-type: none"> Software/Hardware Installer Telecommunications Specialist Network Administrator Data Communications Specialist 	<ul style="list-style-type: none"> Network Administrator Network Engineer Network Manager/Director Project Manager Computer Security Specialist

*Sample CTE Courses are from the Career Technical Education Framework for California Public Schools (California Department of Education: 2007, <http://www.cde.ca.gov/re/pn/fd/>)

**Visit ASSIST (www2.assist.org/browseAreas.do) for community college and UC/CSU information and California Career Zone (www.cacareerzone.org) for occupation information.

Related Career Technical Student Organization: FBLA (<http://www.cafbla.org>), DECA (<http://www.cadeca.org>), and SkillsUSA (<http://www.skillsusaca.com>)

Additional Industry Sector information is available through Business Education Resource Consortium (<http://www.bused.org>).



Programming and Systems Development Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> ▪ Computer Applications ▪ Exploratory Business ▪ Introduction to Programming 	<ul style="list-style-type: none"> ▪ Computer Programming ▪ Programming and Software Development ▪ Java Programming ▪ Visual Basic Programming 	<ul style="list-style-type: none"> ▪ Advanced Programming ▪ AP Computer Science ▪ Game Programming 	<ul style="list-style-type: none"> ▪ Programmer ▪ Software Applications Support ▪ Software Technician 	<ul style="list-style-type: none"> ▪ Programmer ▪ Software Applications Reporting ▪ Software Documentation Specialist 	<ul style="list-style-type: none"> ▪ Chief Software Architect ▪ Computer Software/Hardware Engineer ▪ Manager of Software Development ▪ Operating Systems Designer ▪ Software Architect

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