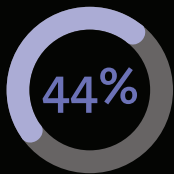


CTE: THE KEY TO ECONOMIC DEVELOPMENT

Information Technology:

Accounts for more than

\$3 trillion
globally¹



Was responsible for a **44 percent** increase in U.S. productivity from 2000 to 2006²

Pays a wage **more than double** the national average³

What is the pathway to these fulfilling and essential careers?

Career and Technical Education!



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Information Technology

A driver of American innovation, the IT sector:

- includes software and hardware development, mobile applications, e-commerce, data management and more
- relies on skilled employees
- is an established or emerging industry in many states

What jobs are available in IT?

Information technology is at the forefront of innovation and efficiency in the American economy. The IT sector was able to withstand the recession relatively well; it lost about one percent of its employees in 2009, but rebounded in 2010.⁴ There were more than 500,000 core IT job openings nationwide in early 2014 and, while not the largest of the 16 Career Clusters®, IT is projected to be the fastest growing Career Cluster through 2018.⁵ IT employment is expected to increase by 18 percent through 2022, compared to 11 percent for all occupations.⁶ Cloud computing and cybersecurity, as well as health care IT, mobile networking and data management, are sub-fields with strong projected growth.⁷

In addition, information technology and STEM are the best-paying Career Clusters for those with middle-level skills.⁸ IT employees in 2012 had average earnings of more than \$76,000 per year, compared to the overall U.S. average of about \$35,000.⁹

By 2018, the majority of jobs in IT will require some postsecondary education, and the sector needs employees with non-degree credentials such as industry-recognized certifications.¹⁰ IT occupations require academic, employability and technical skills and are not limited to the tech industry; jobs in IT are essential for health care, finance and manufacturing, as well as many other growing industries. In addition, there are many non-technical occupations in marketing, sales, finance and operations within the IT sector.¹¹ The following reflect just a few of the jobs available in IT:

- information systems managers
- network administrators
- computer programmers
- software developers
- computer systems analysts
- computer support specialists
- information security analysts
- web developers



Endnotes

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How does CTE prepare the IT workforce?

Career and technical education prepares high school, postsecondary and adult students for careers in information technology through:

- the national Career Clusters Framework—including Career Clusters and pathways in IT; STEM; business management and administration; and arts, A/V technology and communications—which outlines course progressions that help students explore career options and prepare for college and career success
- CTE courses in network technology, information support and services, database management, webpage design, computer programming and more, all integrated with rigorous academics
- work-based learning experiences, such as job shadowing, internships and apprenticeship programs like the Internetworking Associate Apprenticeship Program, a collaboration between the state of Rhode Island and Atrion Networking Corporation¹²
- career and technical student organization enrichment experiences, such as Technology Student Association and SkillsUSA competitions in open source software development, webmaster skills and computer maintenance technology¹³
- opportunities to earn stackable certificates and degrees as well as industry-recognized certifications through such prominent providers as CompTIA, Cisco, Apple, Oracle and Sun

What are promising programs in IT?

In the **Academy of Information Technology (AOIT)** at Alabama's **Hoover High School**, students learn foundational technology concepts through a combination of curriculum from the National Academy Foundation and the state Course of Study that prepares them to work confidently with technology, research careers and apply financial literacy skills. Through courses in creative/media programming and computer networking, students are exposed to a variety of software; learn programming languages; and set up, maintain and manage a network. During the summer of their junior year, academy students test their knowledge and skills through a 120-hour internship in a specialized IT field. They also have the opportunity to obtain their Microsoft Office Specialist certification in Office 2010 or 2013 as well as to certify as a Microsoft Technology Associate, thanks to a partnership with the state Department of Education and the Microsoft IT Academy. Business partners include Regions Bank, Baptist Health Systems, Office Depot, ThinkData Solutions, CTS, Brasfield & Gorrie and ProTech Solutions. Most AOIT students continue their IT studies at a two- or four-year college.¹⁴

Through Indiana's community college system, **Ivy Tech Community College**, students in the Information Security program earn stackable certificates and degrees in advanced forensics, data security, network penetration testing and more at a number of campuses around the state and online.¹⁵ Internship opportunities are available, and Ivy Tech staff sees demand in the field increasing, as graduates are hired by Indiana employers across the health care, banking and finance, IT and manufacturing sectors, such as Do IT Best, Parkview Health Systems, Orthopedics Northeast – ONE, Indiana University Health, Xanatek, Red Gold, IBM, Richmond Power & Light, Summit Computers, Cummins Inc. and LHP Software.¹⁶ To help students reach completion, Ivy Tech offers a number of supports, including credit for prior learning. Ivy Tech also saves students money by facilitating a smooth transfer to four-year institutions.¹⁷