CTE: THE KEY TO ECONOMIC DEVELOPMENT

Information Technology:

Accounts for more than

$1 trillion

in U.S. revenue[1]

Includes almost 384,000 businesses, as well as many self-employed individuals[2]

Pays a wage

more than

2x

the national average[3]

What is the pathway to these fulfilling and essential careers?

Career and Technical Education!

Pearson

Proud supporters of ACTE.

Information Technology

At the forefront of American innovation, the IT sector:

- includes software and hardware development, cloud and mobile computing, cybersecurity, data management and more
- relies on highly skilled employees
- improves productivity in the United States and worldwide

What jobs are available in IT?

There are currently about 4 million jobs in IT, and the sector is expected to generate an additional 488,500 jobs through 2024, driven by demand for computer and network security, cloud and mobile technology, big data, and Internet-connected devices such as household appliances.[4] This is a 12 percent increase in employment, compared to 7 percent for all occupations.[5] Demand for cybersecurity professionals will be particularly strong.[6]

Moreover, IT is one of the best-paying Career Clusters® for those with middle-level skills.[7] IT employees average earnings of more than $82,000 per year, compared to the overall U.S. median wage of about $37,000.[8]

By 2018, the majority of jobs in IT will require some postsecondary education, and IT programs often provide students with opportunities to earn valuable industry certifications in addition to academic credentials.[9] Occupations in IT require academic, technical and employability skills and are found in a broad range of industries, including health care, finance and media. In addition, there are many non-technical occupations within the sector. Forty-one percent of U.S. tech firms are actively seeking to fill positions, but face challenges finding workers with the right skills.[10] The following reflect just a few of the jobs available in IT:

- information systems managers
- network support technicians
- computer programmers
- software developers
- database administrators
- 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 IT through:

- the national Career Clusters Framework—including Career Clusters and pathways in IT; arts, A/V technology and communications; and STEM—which outlines course progressions that help students explore career options and prepare for college and career success

- CTE courses in network security, information support and services, computer maintenance, mobile applications, webpage design, computer programming and more, all integrated with rigorous academics

- work-based learning experiences, such as job shadowing, apprenticeships and internships like the three-year paid internships available to students in the Summit Technology Academy Network Engineering program in Lee's Summit, Missouri[11]

- career and technical student organization enrichment experiences, such as SkillsUSA and Technology Student Association competitions in IT services, computer programming, webmaster skills and more[12]

- opportunities to earn stackable certificates and degrees as well as industry-recognized certifications through organizations such as CompTIA, Apple, Oracle, Cisco and Sun

What are promising programs in IT?

At the **Cybersecurity Networking Academy** at the Applications and Research Laboratory—Howard County, Maryland's area CTE center—students learn to analyze and mitigate cyber threats related to hardware, software, operating systems and networking through National CyberWatch Center and Cisco-certified curricula. The program incorporates opportunities for students to participate in work-based learning and earn industry certifications from Cisco and CompTIA.[13] In addition, the Academy has forged strong connections with a postsecondary Center of Academic Excellence in cyber fields, as designated by the National Security Agency and Department of Homeland Security.[14] Academy students have excelled in the CyberPatriot National Youth Cyber Defense Competition, established by the Air Force Association.[15]

Miami Dade College's Health Information Technology program prepares individuals to accurately translate and record complex patient data into multiple electronic formats. The 2016 program graduation rate was 91 percent, with all students passing the Registered Health Information Management Technician exam the first time.[16] The program also has a high success rate in placing students into internships that lead to full-time employment. Approximately 87 percent of 2014 graduates had a related job within six months of graduation, at a median starting salary of almost $33,000.[17] The Siemens Technical Scholars Program, a collaboration of the Aspen Institute College Excellence Program and the Siemens Foundation, has identified Miami Dade's Health IT program as an exemplary program in preparing individuals for technical STEM jobs.[18]

This sector sheet is the focus of one of ACTE's Microdocs!
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