

# WISE Pathways

Women in Sustainable Employment

Building awareness of careers in construction, energy, and manufacturing for women.



A woman in a white lab coat is working in a laboratory. She is looking at a piece of equipment. The image is overlaid with a blue tint. The text "Computer/Information Technology (IT) Industry" is written in bold black font over the image.

# **Computer/Information Technology (IT) Industry**

# What is the Computer/IT Industry?

- The United States is the largest tech market in the world, representing 31% of the total, or approximately \$1.5 trillion for 2018.
- The vast majority of technology spending stems from purchases made by corporate or government entities. A smaller portion comes from household spending, including home-based businesses.
- Traditional categories of hardware, software and services account for 53% of the total. Telecom services, accounts for 30%. The remaining 17% covers various emerging technologies that either don't fit into one of the traditional buckets or span multiple categories.

\*From CompTIA: <https://www.comptia.org/resources/it-industry-trends-analysis>

# Facts About the Computer/IT Industry

- Tech industry employment includes technical positions, such as software developers or network administrators, as well as non-technical positions, such as sales, marketing, and HR. (44%)
- The other component of the tech workforce consists of the technology professionals working outside of the tech industry, such as healthcare, finance, media, or government.
- In 2017, nearly 5.4 million individuals worked as technology professionals across the U.S. economy.

\*From CompTIA: <https://www.comptia.org/resources/it-industry-trends-analysis>

# Computer/IT Top Five Careers

- Computer User Support Specialist (median salary: \$25.39 hour)
- Computer Operator (median salary: \$21.28 hour)
- Computer Programmer (median salary: \$39.54 hour)
- Web Developer (median salary: \$32.69 hour)
- Network and Computer System Administrator (median salary: \$38.99 hour)

\*Source: O\*NET 2018

# Computer User Support Specialist: What do you do?

- Also called *Help Desk Technicians*
- Pay attention to customers' descriptions of their computer problems
- Ask customers questions to properly diagnose the problem
- Walk customers through the recommended problem-solving steps

# Computer Support Specialist:

## What do you do?

- Set up or repair computer equipment and related devices
- Train users to work with new computer hardware or software, such as printers, word-processing software, and email
- Provide other team members and managers in the organization with information about what gives customers the most trouble and about other concerns customers have

# Computer Operator: What do you do?

- Oversee the operation of computer hardware systems, including coordinating and scheduling the use of computer terminals and networks to ensure efficient use
- Monitor the system for equipment failure or errors in performance
- Respond to program error messages by finding and correcting problems or terminating the program



# Computer Operator: What do you do?

- Operate spreadsheet programs and other types of software to load and manipulate data and to produce reports
- Supervise and train peripheral equipment operators and computer operator trainees
- Help programmers and systems analysts test and debug new programs
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# Computer Programmer:

## What do you do?

- Write, analyze, review, and rewrite programs
- Correct errors by making appropriate changes and rechecking the program to ensure that the desired results are produced
- Write, update, and maintain computer programs or software packages to handle specific jobs
- Conduct trial runs of programs and software applications to be sure they will produce the desired information and that the instructions are correct

# Computer Programmer:

## What do you do?

- Consult with and assist computer operators or system analysts to define and resolve problems in running computer programs
- Write or contribute to instructions or manuals to guide end users
- Train subordinates in programming and program coding
- Develop Web sites

# Web Developer: What do you do?

- Meet with clients or management to discuss the needs and design of a website
  - Create and test applications for a website
  - Write code for the website, using programming languages such as HTML or XML
  - Work with other team members to determine what information the site will contain
  - Work with graphics and other designers to determine the website's layout
-

# Web Developer: What do you do?

- Integrate graphics, audio, and video into the website
- Monitor website traffic
- Build particular types of websites, such as ecommerce, news, or gaming sites, to fit clients' needs

# Network and Computer System Administrator: What do you do?

- Adjust handwheels and depress pedals to control attachments
- Start engines, move throttles, switches, or levers, or depress pedals to operate machines
- Locate underground services
- Load and move dirt, rocks, equipment, or other materials

# Network and Computer System Administrator: What do you do?

- Drive and maneuver equipment equipped with blades in successive passes over working areas to remove topsoil, vegetation, or rocks or to distribute and level earth or terrain
- Coordinate machine actions with other activities, positioning or moving loads in response to hand or audio signals from crew members

# Computer/IT Industry

## Education/Credential

### Requirements

- Required: High school diploma or GED
- Computer User Support Specialist: computer classes; associate degree desirable
- Computer Operator: associate or bachelor degree desirable
- Computer Programmer: bachelor degree desirable; certifications for specific products may be required
- Web Developer: associate degree requirement most common; bachelor degree desirable for specialized positions
- Network & Computer System Administrator: some college required; associate or bachelor degree desirable; certification(s) desirable



# Resources

Help Desk Institute: <https://www.thinkhdi.com/>

Association for Computing Machinery:  
<https://www.acm.org/>

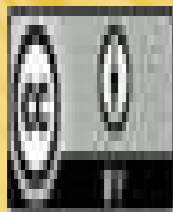
National Center for Women in Information Technology:  
[https://www.bls.gov/bls/exit\\_BLS.htm?url=https://www.ncwit.org/](https://www.bls.gov/bls/exit_BLS.htm?url=https://www.ncwit.org/)

Technology Services Industry Association:  
<https://www.tsia.com/>

CompTIA: <https://www.comptia.org/>

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