

# Computer Hardware Technician

66-credit Associate of Applied Science Degree

## About the Program

Computer Hardware Technicians are responsible for installing, testing, troubleshooting, and repairing computers and associated equipment. Students will prepare for this career by working in labs with the latest computer hardware and test equipment to gain skills in computer networks, computer architecture, computer configuration, hardware upgrades, printer repair/maintenance and computer networking. In addition, a cooperative education course will allow students to gain practical work experience. Upon completion of the fourth semester, students will be prepared to take the Computing Technology Industry Association A+ certification exam.

## Potential Job Titles

- Computer Hardware Technician
- Computer Repair Technician
- PC Support Technician
- Network Technician
- Technical System Specialist

## Credit Transfer

Credits earned in the Computer Hardware Technician program may be transferable to institutions offering baccalaureate degrees. Visit [www.wctc.edu/transfer](http://www.wctc.edu/transfer) for specific information. Since the details of credit transfers change from time to time, be sure to contact the intended college or university to verify credit transferability.

## Admission Process

- Fill out a WCTC application
- Send \$30 non-refundable application fee
- Send high school transcript or GED/HSED
- Send any previous college transcripts
- Complete Skills Assessment test (COMPASS)
- Begin pursuing Financial Aid options

For more information, call 262.691.5200.

## Required Courses

## Credits

### First Semester

107-128	Operating Systems Management	3
605-102	Introduction to Electronics	3
605-156	Cisco Network I- Infrastructure	3
631-116	Intro to Computer Hardware	3
801-195	Written Communication	3+
804-110	Elem Algebra with Applications	3
<b>Total semester credits</b>		<b>18</b>

### Second Semester

605-157	Cisco Network II-Router Configuration	3
631-125	Comp Config-Hardware Installation Intro	3
631-139	Printer Maintenance and Repair	2
801-196	Oral/Interpersonal Communication	3+
806-139	Survey of Physics	3
809-103	Think Critically & Creatively	3
<b>Total semester credits</b>		<b>17</b>

### Third Semester

154-132	Software Analysis & Implementation	2
606-153	Co-Op Education I-Industrial Occup	1
631-136	Comp Diagnosis & Repair Intro	3
631-137	Adv Comp Config-Hardware Upgrade	3
809-195	Economics	3+
809-199	Psychology of Human Relations	3
<b>Total semester credits</b>		<b>15</b>

### Fourth Semester

631-146	Comp Diagnostics-Syst Repair Advanced	4
631-195	A+ Review/Test Preparation	3
809-196	Introduction to Sociology	3+
	Elective	3
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<b>Total semester credits</b>		<b>16</b>

+ Proficiency exam available

Curriculum is current as of catalog printing. The most current curriculum requirements for graduation will be provided upon admission to program, or review at [www.wctc.edu](http://www.wctc.edu).

**Computer Hardware Technician  
Required Courses**

- 107-128 Operating Systems Management** 3  
Study the functions and history of various operating systems. Discuss memory management, processor management, concurrent processing, device and file management. Understand network and system management while working with operating systems such as DOS, Windows, Unix (Linux), Macintosh, and limited midrange systems in hands-on lab exercises.
- 154-132 Software Analysis & Implement** 2  
Evaluate software and hardware requirements and learn the problems that occur when software is installed on incorrect hardware or operating systems.  
Prerequisites: 154-111 or 107-011 and 154-112 or 107-012 and 154-113 or 107-013 and 150-191 or 107-191 or 107-128 (or concurrent) or 107-127 and 631-115 (or concurrent) and 809-199 (or concurrent)
- 605-102 Introduction to Electronics** 3  
Explore basic concepts and theories of direct and alternating current circuits, including the application of Ohm's Law, Watt's Law, and Kirchoff's Law to series, parallel, and series-parallel circuits. Apply concepts to power supply circuits and learn proper use of voltmeters, ohmmeters, and oscilloscopes.
- 605-156 Cisco Network I- Infrastr** 3  
Study the OSI model and industry standards as while examining topics such as network topologies, IP addressing, subnet masks, basic network design, and cable installation. Prepare for the Cisco certification examination (CCNA).
- 605-157 Cisco Network II-Router Config** 3  
Gain classroom and laboratory experience in current and emerging networking technologies while preparing for Cisco certification (CCNA). Develop the skills needed to install, configure, customize, maintain, and troubleshoot Cisco routers. Become familiar with Cisco router and IOS software, and perform hands-on labs using Cisco routers.  
Prerequisites: 605-156 (or concurrent)
- 606-153 Co-op Educ I-Ind** 1  
Gain meaningful occupational experience. Structured to include technical competencies and interpersonal relationships that are stressed in seminars.  
Prerequisites: Approval of Co-op Ed Office
- 631-116 Intro to Computer Hardware** 3  
Become familiar with computer hardware and software. Learn how to access the technical information needed to configure, install, upgrade, repair, and perform preventive maintenance on personal computers. Study topics such as computer operation, flow of data, electro-mechanical properties, current trends in technology, and professional certifications.  
Prerequisites: 605-102 (or concurrent)
- 631-125 Comp Config-Hdwe Inst Intro** 3  
Become familiar with hardware configurations of computer systems and the installation of common software and hardware devices. Study power conditioning equipment, operating systems configuration, visual inspections of hardware and software systems, system documentation, basic computer diagnostic software applications, and antivirus software configuration and use.  
Prerequisites: 631-115 or 631-116 and 107-127 (or concurrent) or 107-128 (or concurrent)
- 631-136 Comp Diag & Rep Intro** 3  
Learn to diagnose problems with computer systems. Use hardware and software diagnostic tools and utilities to differentiate hardware and software problems and develop a fundamental understanding of the sequence of steps required for logical troubleshooting.  
Prerequisites: 631-125 and 809-131 or 809-103

- 631-137 Adv Comp Config-Hdwe Upgr** 3  
Through extensive lab work, students advance their knowledge of the installation, configuration, and upgrade of popular hardware devices in various operating systems, including Windows NT, Windows 2000, Windows XP, LINUX, and multi-boot systems.  
Prerequisites: 631-125 and 809-131 or 809-103
- 631-139 Printer Maintenance and Repair** 2  
Develop skill in the maintenance and repair of printers used with computers. Study how printers operate and the diagnosis, maintenance, and repair of problems associated with the major types of printers, including dot matrix, ink jet, and laser. Use hands-on activities to explore the mechanical and electronic components of printers.  
Prerequisites: 809-131 (or concurrent) or 809-103 (or concurrent)
- 631-146 Comp Diag-Syst Rep Adv** 4  
Examine the diagnosis and repair of computers as components of networked environments. Develop a high level of understanding about overall computer systems.  
Prerequisites: 631-136
- 631-195 A+ Review/Test Preparation** 3  
Prepare for the Computing Technology Industry Association A+ certification examination. Passing this exam provides a nationally recognized credential, currently required by industry leaders, that indicates student is a competent computer service professional. This individualized course is designed to meet the needs of the working computer repair professional seeking A+ certification and as an opportunity for review prior to taking the A+ exam.  
Prerequisites: 631-137 (or concurrent)
- 801-195 Written Communication** 3  
Study and practice the transfer of information, ideas, and experiences in written form through reports, letters, memoranda, and other documents. Gain proficiency in the areas of organization, clarity, accuracy, and directness.
- 801-196 Oral/Interpersonal Comm** 3  
Practice the necessary skills for effective speech delivery, listening, assertiveness, conflict resolution, teamwork, and general interpersonal communication.
- 804-110 Elem Algebra w Apps** 3  
Explore traditional algebra topics with applications. Learners develop algebraic problem solving techniques needed for technical problem solving and for more advanced algebraic studies. Topics include linear equations, exponents, polynomials, rational expressions, and roots and radicals. Successful completion of this course prepares learners to succeed in technical mathematics courses.
- 806-139 Survey of Physics** 3  
Emphasis is on understanding basic physics concepts through laboratory investigation and applications. Topics include kinematics, dynamics, work, energy, power, temperature, heat, waves, electricity, magnetism, electromagnetic waves, optics, and atomic and nuclear physics.  
Prerequisites: 804-115 or 804-151 or 804-170 or 804-110 (or concurrent) or 804-106 (or concurrent)
- 809-103 Think Critically & Creatively** 3  
Provides instruction in the vital, realistic, and practical methods of thinking which are in high demand in all occupations of substance today. Decision making, problem solving, detailed analysis of ideas, troubleshooting, argumentation, persuasion, creativity, setting goals and objectives, and more are considered in depth as the student applies specific thinking strategies and tools to situations in a wide variety of workplace, personal, academic, and cultural situations.
- 809-195 Economics** 3  
Discuss the major institutions and principles that underlie the contemporary American economic system, and consider topics such as the free enterprise system, supply and demand, circular flow, government involvement, the federal reserve system, economic growth and development, the effects of international trade, comparative economic systems, and global economics.

**809-196 Introduction to Sociology** 3  
Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multiculturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues.

**809-199 Psychology of Human Relations** 3  
Examine the principles of interaction as applied to human relations at home and on the job. Explore topics such, as self concept personality development, learning, motivation, emotions, stress, human relations processes, and special relationships.

**Elective Options**

Any course at the associate degree level will meet the elective requirement.