



Department of Teaching & Learning
Parent/Student Course Information

Computer Systems Technology I
(AT8685)
Three Credits, One Year
Grades 9 - 12

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION

Students will recognize and solve the most common technical problems associated with personal computers (PCs). Gain the skills to build and configure PCs, and learn to troubleshoot associated hardware and software while also learning to configure and maintain a basic client server network.

CERTIFICATION

CompTIA A+ Certification Exam
Microsoft Technology Associate Exam (Network Fundamentals)
Microsoft Specialist Exam (Windows 10)

STUDENT ORGANIZATION

SkillsUSA is a co-curricular organization for all students enrolled in trade and industrial education programs. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps students excel by providing educational programs, events and competitions that support career and technical education (CTE) in the nation's classrooms. Students are highly encouraged to participate.

PREREQUISITE

None

OPTIONS FOR NEXT COURSE

Computer Systems Technology II

REQUIRED STUDENT TEXTBOOK

None

COMPETENCIES FOR COMPUTER SYSTEMS TECHNOLOGY I

Demonstrating Workplace Readiness Skills: Personal Qualities and People Skills

- 1 Demonstrate positive work ethic.
- 2 Demonstrate integrity.
- 3 Demonstrate teamwork skills.
- 4 Demonstrate self-representation skills.
- 5 Demonstrate diversity awareness.
- 6 Demonstrate conflict-resolution skills.
- 7 Demonstrate creativity and resourcefulness.

Demonstrating Workplace Readiness Skills: Professional Knowledge and Skills

- 8 Demonstrate effective speaking and listening skills.
- 9 Demonstrate effective reading and writing skills.
- 10 Demonstrate critical-thinking and problem-solving skills.
- 11 Demonstrate healthy behaviors and safety skills.
- 12 Demonstrate an understanding of workplace organizations, systems, and climates.
- 13 Demonstrate lifelong-learning skills.
- 14 Demonstrate job-acquisition and advancement skills.
- 15 Demonstrate time-, task-, and resource-management skills.
- 16 Demonstrate job-specific mathematics skills.
- 17 Demonstrate customer-service skills.

Demonstrating Workplace Readiness Skills: Technology Knowledge and Skills

- 18 Demonstrate proficiency with technologies common to a specific occupation.
- 19 Demonstrate information technology skills.
- 20 Demonstrate an understanding of Internet use and security issues.
- 21 Demonstrate telecommunications skills.

Examining All Aspects of an Industry

- 22 Examine aspects of planning within an industry/organization.
- 23 Examine aspects of management within an industry/organization.
- 24 Examine aspects of financial responsibility within an industry/organization.
- 25 Examine technical and production skills required of workers within an industry/organization.
- 26 Examine principles of technology that underlie an industry/organization.
- 27 Examine labor issues related to an industry/organization.
- 28 Examine community issues related to an industry/organization.
- 29 Examine health, safety, and environmental issues related to an industry/organization.

Addressing Elements of Student Life

- 30 Identify the purposes and goals of the student organization.
- 31 Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.
- 32 Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.
- 33 Identify Internet safety issues and procedures for complying with acceptable use standards.

Demonstrating Ethical Behavior with Computer Systems Technology

- 34 Identify security issues related to computer hardware, software, and data.
- 35 Identify concepts related to copyright, public domain, copy protection, intellectual property, and licensing agreements.
- 36 Identify concepts of cybersecurity, honesty, courtesy, and confidentiality related to information and email systems and social networking (e.g., spam, viruses, and etiquette).
- 37 Investigate Internet privacy issues and computer crimes, including identity theft.
- 38 Comply with copyright and patent laws.
- 39 Comply with policies regarding acceptable use of technology.

Exploring Hardware

- 40 Configure settings using Basic Input-Output System/Unified Extensible Firmware Interface (BIOS/UEFI) tools on a personal computer (PC).
- 41 Describe the purposes and properties of motherboard components.
- 42 Compare various RAM types and their features.
- 43 Install PC expansion cards.
- 44 Install various types of CPUs.
- 45 Describe the characteristics and purposes of various PC connection interfaces.
- 46 Install a power supply.
- 47 Select appropriate components for a custom PC configuration to meet customer specifications or needs.
- 48 Install storage devices.
- 49 Compare types of displays.
- 50 Identify common PC connector types and associated cables.
- 51 Install common peripheral devices.
- 52 Install Small Office, Home Office (SOHO) multifunction device/printers.
- 53 Compare differences between the various print technologies and the associated imaging process.
- 54 Perform appropriate printer maintenance.

Exploring Networking

- 55 Identify the various types of network cables and connectors.
- 56 Compare the characteristics of connectors and cabling.
- 57 Explain the properties and characteristics of Transmission Control Protocol/Internet Protocol (TCP/IP).
- 58 Explain common TCP and User Datagram Protocol (UDP) ports, protocols and their purpose.
- 59 Compare various Wireless Fidelity (WiFi) networking standards and encryption types.
- 60 Install SOHO wireless/wired router.
- 61 Compare Internet connection types, network types, and their features.
- 62 Compare network architecture devices, their functions and features.
- 63 Use networking tools.

Exploring Mobile Devices

- 64 Install laptop hardware and components.
- 65 Describe the function of components within the display of a laptop.
- 66 Demonstrate various laptop features.
- 67 Explain the characteristics of various types of mobile devices.
- 68 Compare accessories and ports of other mobile devices.

Troubleshooting Hardware and Networking

- 69 Troubleshoot common problems related to motherboards, RAM, CPU, and power.
- 70 Troubleshoot hard drives and RAID arrays.
- 71 Troubleshoot common video, projector, and display issues.
- 72 Troubleshoot wired and wireless networks.
- 73 Troubleshoot common mobile devices.
- 74 Troubleshoot printers.

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For further information please call (757) 263-1070.

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To seek resolution of grievances resulting from alleged discrimination or to report violations of these policies, please contact the Title VI/Title IX Coordinator/Director of Student Leadership at (757) 263-2020, 1413 Laskin Road, Virginia Beach, Virginia, 23451 (for student complaints) or the Section 504/ADA Coordinator/Chief Human Resources Officer at (757) 263-1133, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (for employees or other citizens). Concerns about the application of Section 504 of the Rehabilitation Act should be addressed to the Section 504 Coordinator/ Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student's school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Laskin Road Annex, 1413 Laskin Road, Virginia Beach, Virginia, 23451.

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