

Computer Repair 1

Course Description:

The computer repair program at County Area Learning School (DCALS) teaches students seeking career-oriented, entry-level computer hardware, software, and networking skills, or who want to gain fundamental PC hardware, software, and troubleshooting skills.

Students develop working knowledge of how computers operate, how to assemble computers, and how to troubleshoot hardware and software issues. Hands-on labs and virtual learning tools help students develop critical thinking and complex problem-solving skills. The course emphasizes the practical application of skills and procedures needed for hardware and software installations, upgrades, and troubleshooting systems. Cisco Packet Tracer simulation-based learning activities promote the exploration of networking and network security concepts and allow students to experiment with network behavior.

Additionally the program provides high school students the opportunity to learn about and explore specific IT careers, such as what type of duties they would perform, education that is required, standards that need to be met, and what salary is earned. The Cisco Networking Academy also allows the student to investigate and develop the skills to become a professional Information Technology (IT) worker. This program also offers the student the opportunity to take the Comp TIA A+ certification test.

Prerequisites: None

Content Area:

1. Introduction to the Personal Computer
2. Safe Lab Procedures and Tool Use
3. Computer Assembly Step – by Step
4. Basics of Preventive Maintenance and Troubleshooting
5. Fundamental Operating Systems
6. Fundamental Laptops and Portable Devices
7. Fundamental Printers and Scanners
8. Fundamental Networks
9. Fundamental Security
10. Communications Skills

Length: One Semester = 16 weeks

Standards Addressed:

The Computer Repair program is designed to meet the Cisco Networking Academy's standards and objectives for the Comp TIA A+ program. Additionally, these standards apply to occupations and/or functions primarily involved in the IT Computer Networking industry. These standards specify the knowledge and skills needed by professionals in the Information Technology career cluster.

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Learner Outcomes:

Students who complete IT Essentials will be able to perform the following tasks:

Identify and describe the various components that make up a personal computer and define information technology

Identify and describe tools used for computer service and explain how to use those tools safely

Describe the assembly of a personal computer

Describe the purpose of preventive maintenance and basic troubleshooting steps

Describe operating system capabilities, the installation process, navigation, basic preventive maintenance, and troubleshooting

Identify and describe the main components of laptops and portable devices, basic preventive maintenance, and troubleshooting

Identify and describe the differences between printers and scanners, installation and configuration, basic preventive maintenance, and troubleshooting

Identify and describe basic network components, technologies, basic preventive maintenance, and troubleshooting

Identify and describe security threats, procedures, basic preventive maintenance, and troubleshooting

Describe professional skills and communication techniques

Assess customer needs, analyze possible configurations, and provide solutions or recommendations for hardware, operating systems, networking, and security

Demonstrate all skills, written and hands-on for Comp TIA A+ certification test.

Assessment:

Our students are assessed with competency based skill sets and written examinations and are provided with immediate feedback. Specific rubrics for all skills sets are utilized in student assessments. Following the Minnesota Department of Education's (MDE) Program of Study (POS), students will take a standardized pre and post assessment. Upon completion of this class students, on their own, may at this time take the Comp TIA A+ Certification test.

Grading Scales:

Course grading is outlined in the student handbook. Professionalism (attendance, tardiness, classroom participation, behavior) will be assessed as 20 points per day. Additional points can also be earned for tests, quizzes, worksheets and projects. The accumulation of these points will be calculated into the student's final grade.

- 100 – 90% A
- 89 – 80% B
- 79 – 70% C
- 69 – 60% D
- 59 – 0% F