COURSE SYLLABUS

Course Title: Technology Troubleshoot and Repair

Department: Technology

Primary Course Materials: Computer Service and Repair, 4th Edition by Richard M. Roberts

Course Description: Learn technology troubleshooting and technology repair skills while mastering quick tips and techniques to assist users with technical issues. Find out how CHS technologies are deployed and maintained. This course will prepare you to work on the Student Help Desk or become part of the Summer Tech Crew as well as provide valuable IT skills for use in other settings. Computer technicians need a deep understanding of hardware as well as strong communication skills to communicate solutions to technical and non-technical individuals effectively. You will learn to interface with both equipment and individual users. This course is ideal for methodical problem-solvers with an aptitude for learning and quickly adapting to new skills. Patience, resourcefulness, and a desire to help others are desirable in technical support and help desk roles. Prerequisites: Enrollment is limited to teacher approval.

Essential Questions:
What is not working with computer hardware and software?
What are the possible solutions that would fix a computer?
What are the steps that you would need to go through to fix a computer?

Course Objectives:
1. To understand the basic parts of computer hardware
2. To understand the basic operations of computer software
3. To be able to fix basic computer issues
4. Learn how to troubleshoot common computer problems
5. Learn how to use some of the most common software on a computer
6. Learn how to communicate in a professional environment

Common Goals:

Thinking and Communicating

1) X Read information critically to develop understanding of concepts, topics and issues.
2) X Write clearly, factually, persuasively and creatively in Standard English.
3) X Speak clearly, factually, persuasively and creatively in Standard English.
4) X Use computers and other technologies to obtain, organize and communicate information and to solve problems.
5) X Conduct research to interpret issues or solve complex problems using a variety of data and information sources.

Gain and Apply Knowledge in and across the Disciplines

6) Gain and Apply Knowledge in:
a) ☐Literature and Language
b) ☐Mathematics
c) X Science and Technology
d) ☐Social Studies, History and Geography
e) ☐Visual and Performing Arts
f) ☐Health and Physical Education

Work and Contribute

7) ☐Demonstrate personal responsibility for planning one's future academic and career options.
8) X Participate in a school or community service activity.
9) ☐Develop informed opinions about current economic, environmental, political and social issues affecting Massachusetts, the United States and the world and understand how citizens can participate in the political and legal system to affect improvements in these areas.

Learning Standards from the Massachusetts Curriculum Framework:

A chart is attached, identifying which of the standards from the Massachusetts Curriculum Frameworks will be assessed in this course.

Additional Learning Objectives Beyond the Curriculum Framework:
Students will learn how to fix computers and participate in a student help desk.

Content Outline:

1. Screen Recording
2. The Essential Hardware of the Computer
3. Hard Drives and File Storage
4. The Design Process Applied to Troubleshooting Computers
5. Fixing and Maintaining Chromebooks Hardware
6. Fixing and Maintaining Chromebook Software
7. Troubleshooting Wi-Fi and Internet Access issues
8. Chrome Browser
9. ClearTouch
10. Computer Security
11. Computer Networking
12. Computer Updates
13. Printing and Printers

Enrichment:
Cybersecurity, Parts of a Network, Google Suite, Fixing Computers, Wire Management

Major Evaluation Strategies:

Name of Assessment	**Type of Assessment**		**Common Goals Assessed**	**Standards Assessed**	**<u>Other Objectives</u> Assessed**
	Test	**Performance Assessment**			
Projects	☐	X	Course objectives 1 through 6	Standard Dependent	
Class Participation	☐	X	Course objectives 1 through 6	Standard Dependent	

Massachusetts Technology Standards

Safety and Security [9-12.CAS.a]	
	Explain safe practices when collaborating online, including how to anticipate potentially dangerous situations.
Ethics and Laws [9-12.CAS.b]	
	Identify computer-related laws and analyze their impact on digital privacy, security, intellectual property, network access, contracts, and consequences of sexting and harassment.
	Discuss the legal and ethical implications associated with malicious hacking and software piracy.
	Interpret software license agreements and application permissions.
Interpersonal and Societal Impact [9-12.CAS.c]	
	Discuss the impact of computing technology on business and commerce (e.g., automated tracking of goods, automated financial transaction, e-commerce, cloud computing).
	Describe the role that assistive technology can play in people's lives.
	Discuss the social and economic implications associated with malicious hacking, software piracy, and cyber terrorism.
Research [9-12.DTC.c]	
	Generate, evaluate, and prioritize questions that can be researched through digital resources or tools.
	Evaluate digital sources needed to solve a given problem (e.g., reliability, point of view, relevancy).
	Gather, organize, analyze, and synthesize information using a variety of digital tools.
Computing Devices [9-12.CS.a]	
	Apply strategies for identifying and solving routine hardware and software problems that occur in everyday life (e.g., update software patches, virus scan, empty trash, run utility software, close all programs, reboot, use help sources).
	Describe how computing devices manage and allocate shared resources [e.g., memory, Central Processing Unit (CPU)].
Networks [9-12.CS.c]	
	Examine common network vulnerabilities (e.g., cyberattacks, identity theft, privacy) and their associated responses.
	Examine the issues (e.g., latency, bandwidth, firewalls, server capability) that impact network functionality.