COURSE SYLLABUS

LAST REVIEW	Fall 2022
COURSE TITLE	Laptops and Mobile Devices
COURSE NUMBER	CRTE 0108
DIVISION	Career and Technical Education
DEPARTMENT	CRTE
CIP CODE	11.1006
CREDIT HOURS	3
CONTACT HOURS/WEE	K Class: 1 Lab: 4
PREREQUISITES	None

COURSE DESCRIPTION

Upon completion of this course students will be able to identify and describe laptops and other portable devices. Identify and describe the components of a laptop. Compare and contrast desktop and laptop components. Explain how to configure laptops. Compare the different mobile phone standards. Identify common preventive maintenance techniques for laptops and portable devices. Describe how to troubleshoot laptops and portable devices. With the increase in demand for mobility, the popularity of laptops and portable devices will continue to grow. During the course of your career, you will be expected to know how to configure, repair, and maintain these devices. The knowledge you acquire about desktop computers will help you service laptops and portable devices. However, there are important differences between the two technologies. To facilitate mobility, laptops and portable devices use wireless technologies more than desktops. All laptops use batteries when they are disconnected from a power source. Docking stations are commonly used to connect a laptop to peripheral devices. As a computer technician, you will be required to configure, optimize, and troubleshoot these docking stations and accessories, as well as the laptop or portable device that they accompany. Many laptop components are proprietary, so some manufacturers require that you complete specialized certification training to perform laptop repairs. Servicing laptops can be very challenging. Mastering the skills necessary to work on laptops is important to your career advancement.

PROGRAM ALIGNMENT

This course is part of a program aligned through the Kansas Board of Regents and Technical Education Authority. For more information, please visit: <u>https://kansasregents.org/workforce_development/program-alignment</u>

PROGRAM LEARNING OUTCOMES

- 1. Students will be able to identify different types of PC hardware and peripherals
- 2. Students will be able to evaluate operating systems, application programs, and hardware.
- 3. Students will be able to demonstrate troubleshooting and repair personal computers.
- 4. Students will be able to demonstrate appropriate customer skills when interacting with customers.

TEXTBOOKS

http://kckccbookstore.com/

METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

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- I. Describe laptops and other portable devices
 - A. Identify some common uses of laptops
 - B. Identify some common uses of PDAs and Smart-phones
- II. Identify and describe the components of a laptop
 - A. Describe the components found on the outside of the laptop
 - B. Describe the components found on the inside of the laptop
 - C. Describe the components found on the laptop docking station
- III. Compare and contrast desktop and laptop components
 - A. Compare and contrast desktop and laptop motherboards
 - B. Compare and contrast desktop and laptop processors
 - C. Compare and contrast desktop and laptop power management
 - D. Compare and contrast desktop and laptop expansion capabilities
- IV. Explain how to configure laptops
 - A. Describe how to configure power settings
 - B. Describe the safe installation and removal of laptop components
- V. Compare the different mobile phone standards
- VI. Identify common preventive maintenance techniques for a laptops and portable devices
 - A. Identify appropriate cleaning procedures
 - B. Identify optimal operating environments
- VII. Describe how to troubleshoot laptops and portable devices
 - A. Review the troubleshooting process
 - Identify common problems and solutions
- VIII. Describe wireless communication methods for laptops and portable devices
 - A. Describe Bluetooth Technology
 - B. Describe Infrared Technology
 - C. Describe Cellular WAN Technology
 - D. Describe Wi-Fi Technology
 - E. Describe Satellite Technology
- IX. Describe repairs for laptops and portable devices
- X. Selecting laptop components
 - A. Select batteries
 - B. Select a docking station or port replicator
 - C. Select storage devices
 - D. Select additional RAM
- XI. Describe preventive maintenance procedures for laptops
 - A. Describe how to schedule and perform maintenance for laptops

- B. Explain how to manage data version control between desktops and laptops
- XII. Describe how to troubleshoot a laptop
 - A. Review the troubleshooting process
 - B. identify common problems and solutions
 - C. Apply troubleshooting skills

COURSE LEARNING OUTCOMES AND COMPETENCIES

Upon successful completion of this course, the student will:

- A. Describe laptops and other portable devices
 - 1. Demonstrate the ability to identify some common uses of laptops.
 - 2. Demonstrate the ability to identify some common uses of PDAs and Smart-phones.
- B. Identify and describe the internal and external components of a laptop
 - 3. Demonstrate the ability to describe the components found on the outside of the laptop.
 - 4. Demonstrate the ability to describe the components found on the inside of the laptop.
 - 5. Demonstrate the ability to describe the components found on the laptop docking station.
- C. Compare and contrast desktop and laptop components
 - 6. Demonstrate the ability to compare and contrast desktop and laptop motherboards.
 - 7. Demonstrate the ability to compare and contrast desktop and laptop processors.
 - 8. Demonstrate the ability to compare and contrast desktop and laptop power management.
 - 9. Demonstrate the ability to compare and contrast desktop and laptop expansion capabilities.
- D. Explain how to configure laptops
 - 10. Demonstrate the ability to describe how to configure power settings.
 - 11. Demonstrate the ability to perform the safe installation and removal of laptop components.
- E. Compare the different mobile phone standards
 - 12. Demonstrate the ability to compare and contrast different mobile phone standards.
- F. Identify common preventive maintenance techniques for laptops and portable devices
 - 13. Demonstrate the ability to identify appropriate cleaning procedures.
 - 14. Demonstrate the ability to identify optimal operating environments.
- G. Describe how to troubleshoot laptops and portable devices
 - 15. Demonstrate the ability to Review the troubleshooting process.
 - 16. Demonstrate the ability to Identify common problems and solutions.
- H. Describe wireless communications methods for laptops and portable devices
 - 17. Demonstrate the ability to describe Bluetooth Technology.
 - 18. Demonstrate the ability to describe Infrared Technology.
 - 19. Demonstrate the ability to describe Cellular WAN Technology.
 - 20. Demonstrate the ability to describe Wi-Fi Technology.
 - 21. Demonstrate the ability to describe Satellite Technology.
- I. Describe the repairs needed for a laptop
 - 22. Accurately describe the repairs need for a laptop.

- J. Describe how to select laptop components
 - 23. Demonstrate the ability to select batteries.
 - 24. Demonstrate the ability to select a docking station or port replicator.
 - 25. Demonstrate the ability select storage devices.
 - 26. Demonstrate the ability select additional RAM.
- K. Describe preventive maintenance procedures for a laptop
 - 27. Demonstrate the ability to schedule and perform maintenance for laptops.
 - 28. Demonstrate the ability to explain how to manage data version control between desktops and laptops.
- L. Describe how to troubleshoot a laptop
 - 29. Demonstrate the ability to review the troubleshooting process.
 - 30. Demonstrate the ability to identify common problems and solutions.
 - 31. Demonstrate the ability to apply troubleshooting skills.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES

Student Handbook https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf

College Catalog https://www.kckcc.edu/academics/catalog/index.html

College Policies and Statements https://www.kckcc.edu/about/policies-statements/index.html

Accessibility and Accommodations

https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html.