COURSE SYLLABUS

LAST REVIEW	Fall 2022
COURSE TITLE	CompTIA A+ Practical Applications
COURSE NUMBER	CRTE 0101
DIVISION	Career and Technical Education
DEPARTMENT	CRTE
CIP CODE	11.1006
CREDIT HOURS	3
CONTACT HOURS/WEEK	Class: 1 Lab: 4
PREREQUISITES	None

COURSE DESCRIPTION
Students will gain the knowledge required to install, configure and maintain software for end users. This course will also cover the basics of networking and security/forensics, properly and safely diagnose, resolve and document common software issues while applying troubleshooting skills. Students will also gain appropriate customer support and soft skills; understand the basics of virtualization, desktop imaging, and deployment.

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:
https://kansasregents.org/workforce_development/program-alignment

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

I. Operating Systems
  A. Microsoft Operating Systems
    1. An Overview of Windows XP
    2. An Overview of Windows Vista
    3. An Overview of Windows 7
    4. Windows Features
    5. Windows File Structures and Paths
    6. Windows Upgrade Paths
  B. Installing Windows
    1. Planning a Windows Installation
    2. Installing Windows XP
    3. Installing Windows Vista
    4. Installing Windows 7
  C. The Windows Command Line
    1. Network Command Line Tools
    2. Operating System Command Line Tools
    3. Using the Windows Recovery Console and Command Prompt
  D. Operating System Tools
    1. Using Computer Management
    2. Using Windows Device Manager
    3. Windows Users and Groups
    4. Windows Local Security Policy
    5. Using Windows Performance Monitor
    6. Managing Windows Services
    7. Windows System Configuration
    8. Using Task Scheduler
    9. Understanding Windows Component Services
    10. Windows Data Sources
    11. Windows Print Management
    12. Windows Memory Diagnostics
    13. Using Windows Firewall
    14. Using Windows Task Manager
    15. Windows Disk Management
    16. Windows Migration Tools
    17. Windows Run Line Utilities
  E. The Windows Control Panel
    1. The Windows Control Panel
    2. Windows XP Control Panel Options
    3. Windows Vista Control Panel Options
    4. Windows 7 Control Panel Options
  F. Configuring Windows Networking
    1. Windows Homegroup
    2. Windows Network Technologies
    3. Establishing Windows Network Connections
    4. Windows IP Address Configuration
    5. Configuring Network Adapter Properties
  G. Windows Preventive Maintenance
    1. Preventive Maintenance Best Practices

2. Preventive Maintenance Tools

H. Windows Security
1. Windows Security Settings (7:43)

I. Client-Side Virtualization
1. Client-Side Virtualization

II. Security

A. Security Prevention Methods
1. Physical Security Techniques
2. Digital Security Techniques
3. Security Awareness

B. Common Security Threats
1. Common Security Threats

C. Securing a Windows Workstation
1. Workstation Security Best Practices

D. Disposing of Sensitive Data
1. Disposing of Sensitive Data

E. Securing a SOHO Network
1. Securing a Wired and Wireless Network

III. Mobile Devices

A. Mobile Operating Systems
1. Comparing Android and iOS

B. Network Connectivity and Email
1. Mobile Device Networking

C. Configuring Email on Mobile Devices
1. Securing Mobile Devices

D. Mobile Device Security Best Practices
1. Mobile Device Hardware

E. Comparing Tablets and Laptops

F. Mobile Device Synchronization
1. Mobile Device Synchronization device to PC

IV. Troubleshooting

A. Troubleshooting Theory
1. Troubleshooting Theory

B. Common Hardware Problems
1. Troubleshooting Common Hardware Problems
2. Hardware Troubleshooting Tools

C. Hard Drive Troubleshooting
1. Troubleshooting Hard Drives
2. Hard Drive Troubleshooting Tools

D. Troubleshooting Video
1. Troubleshooting Video and Display Issues

E. Troubleshooting Networks
1. Troubleshooting Networks
2. Network Troubleshooting Tools
3. Network Troubleshooting at the Command Line

F. Operating System Troubleshooting
1. Troubleshooting Operating Systems
2. Operating System Troubleshooting Tools

G. Troubleshooting Security Issues
   1. Troubleshooting Common Security Issues
   2. Tools for Security Troubleshooting
   3. Best Practices for Malware Removal
H. Laptop Troubleshooting
   1. Troubleshooting Laptop Issues
   2. Laptop Disassembly Best Practices
I. Troubleshooting Printers
   1. Troubleshooting Printer Problems
   2. Printer Troubleshooting Tools

COURSE LEARNING OUTCOMES AND COMPETENCIES
Upon successful completion of this course, the student will:

A. Illustrate the installation, configuration and troubleshooting of current operating systems
   1. Determine the if the available hardware is compatible with a given operating system.
   2. Install Microsoft Windows XP.
   3. Install Microsoft Windows Vista.
   4. Install Microsoft Windows 7.
   5. Evaluate an installation to determine if all the steps are complete.
   6. Locate and install the appropriate drivers.

B. Compare and contrast the features and requirements of various Microsoft Operating Systems
   7. Compare and contrast the current version of Microsoft Windows with the previous version.
   8. Evaluate the upgradability of a given operating system.
   9. Analyze the EULA of the current version of Microsoft Windows.

C. Demonstrate use of networking, OS and recovery console command line tools
   10. Open up a command prompt.
   11. Utilize the appropriate command to determine connectivity to another computer.
   12. Demonstrate the ability to utilize the recovery console.

D. Configure and troubleshoot a network client/desktop device
   13. Share a printer.
   14. Connect to a shared printer across a network.
   15. Control access to a shared device.

E. Perform preventative maintenance procedures
   16. Perform a software update.
   17. Apply a service pack.
   18. Apply security updates.
   19. Perform a malware scan and remove malware.

F. Demonstrate use of basic network, OS and data security
   21. Create user passwords.

22. Manage user rights in Windows.

G. Identify and integrate mobile devices
   23. Sync a mobile device to Windows.
   24. Attach a table to a network.

H. Demonstrate common troubleshooting methods
   25. Demonstrate the ability to troubleshoot a software issue.
   26. Demonstrate the ability to troubleshoot a hardware issue.

I. Demonstrate professional customer service skills
   27. Demonstrate the ability to interact with a customer regarding a computer problem.

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.