COURSE SYLLABUS

LAST REVIEW Fall 2022

COURSE TITLE Linux and Windows Practical Server

COURSE NUMBER CRTE 0202

DIVISION Career and Technical Education

DEPARTMENT <mark>CRTE</mark>

CIP CODE 11.1006

CREDIT HOURS 3

CONTACT HOURS/WEEK Class: 1   Lab: 4

PREREQUISITES None

COURSE DESCRIPTION

This class will introduce the student to the knowledge and skills required
to build, maintain, troubleshoot and support server hardware and software technologies.
The successful candidate will be able to identify environmental issues; understand and
comply with disaster recovery and physical / software security procedures; be familiar
with industry terminology and concepts; understand server roles / specializations and
interaction within the overall computing environment. This class will rely heavily on reinforcing the
concepts thru lab activities.

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 configure a router and a switch for basic functionality
2.   Students will be able to configure, monitor and troubleshoot access controls lists for
    various addressing methods
3.   Students will be able to build, maintain and troubleshoot server hardware and software
    technologies
4.   Students will be able to explain and enforce basic concepts of computer network security

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.   Installation
  - A.   Installing Windows Server
  - B.   Installation of OS add-on options

II.   Administrator/User Interface
  - A.   Log on Procedures
  - B.   Windows Graphical user interface (GUI)
  - C.   Windows Command-line interface (CLI)

III.   User Accounts
  - A.   Adding users
  - B.   Managing user accounts
  - C.   Functions and Permissions of the Administrator Account

IV.   Managing the File System
  - A.   Creating and sharing folders
  - B.   Creating groups and adding users
  - C.   Passwords and permissions

V.   Services
  - A.   Hypertext Transfer Protocol (HTTP)
  - B.   File Transfer Protocol (FTP)
  - C.   Telnet
  - D.   Stopping and Starting Services in Windows
  - E.   E-mail server/client relationship
  - F.   Printing in Windows Server
  - G.   Scripts

VI.   Pre-Installation Tasks
  - A.   The boot method
  - B.   Installation Media
  - C.   Selecting the appropriate parameters for installation
  - D.   Creating the Linux file system
  - E.   Selecting packages to install
  - F.   Linux Multimedia

VII.   Installing and Configuring Linux
  - A.   Linux hardware requirements
  - B.   Starting the installation
  - C.   Configuring appropriate security settings
  - D.   Configuring network settings
  - E.   Other configurations and settings

VIII.   X Server
  - A.   Video card chipset
  - B.   X server options
  - C.   Configuring X server
  - D.   Hardware configurations

IX.   Post-Installation Configuration and Tasks
  - A.   Post-installation of applications and programs
  - B.   Creating Achieves and Basic make file changes

C. Installing and reconfiguring the boot loader
D. Kernel issues
E. Environment variables
F. Verifying proper application functioning and performance
X. User Interface Administration
    A. Log in procedures
    B. GUI interface
    C. CLI Interface
    D. The Linux shell
    E. VI Editor
    F. awk
XI. User Accounts and Group Accounts
    A. User and group accounts in a Linux environment
    B. Adding and Removing User Account
    C. Managing user accounts
    D. Creating groups and adding users to groups
XII. Files System and Services Management
    A. Creating/sharing directories
    B. Using find and grep
    C. Passwords and permissions
    D. Mounting and managing file systems
    E. File system configuration files
    F. Managing runlevels
    G. Documenting a Linux system configuration
XIII. Daemons
    A. Introduction to Linux daemons
    B. Starting, stopping, and restarting daemons
    C. HTTP
    D. FTP
    E. Telnet
    F. Server Message Block (SMB) protocol
    G. NFS (Network File System)
    I. Mail Client
    J. Printing in a Linux Environment
    K. Scripts

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

A. Perform Windows Server installation.
    1. Demonstrate the ability to install Windows Server.
    2. Demonstrate the ability to install Windows Server add-on options.

B. Locate the Windows Server Administrator/User Interface.
    3. Describe the log on procedures for Windows Server.
    4. Discuss the Windows Graphical user interface (GUI)
    5. Utilize the Windows Command-line interface (CLI)

C.   Describe Windows ServerUser Accounts.
      6.   Perform the procedure for adding users.
      7.   Perform the ability to manage user accounts.
      8.   Describe the functions and permissions of the administrator
            account.

D.   Describe Windows Server file system management.
      9.   Demonstrate the ability to create and share folders
      10.   Demonstrate the ability to create groups and add users.
      11.   Create passwords and modify permissions.

E.   Describe Windows Server services.
      12.   Set up a File Transfer Protocol (FTP) service.
      13.   Set up Telnet.
      14.   Describe Stopping and Starting Services in Windows.
      15.   Describe E-mail server/client relationship.
      16.   Set up a Printer in Windows Server.
      17.   Write a basic Windows Scripts.

F.   Describe Pre-Installation Tasks
      18.   Describe the boot method
      19.   Describe installation media
      20.   Describe selecting the appropriate parameters for installation
      21.   Describe creating the linux file system
      22.   Demonstrate selecting packages to install
      23.   Describe Linux multimedia

G.   Describe Installing and Configuring Linux
      24.   Describe Linux hardware requirements
      25.   describe starting the installation
      26.   Perform configuring appropriate security settings
      27.   Perform configuring network settings
      28.   Perform other configurations and settings

H.   Describe X Server
      29.   Describe video card chipset
      30.   Describe X server options
      31.   Describe configuring X server
      32.   Describe hardware configurations

I.   Describe Post-Installation Configuration and Tasks
      33.   Describe post-installation of applications and programs
      34.   Describe creating Achieves and Basic make file changes
      35.   Perform installing and reconfiguring the boot loader
      36.   Describe Kernel issues
      37.   Describe environment variables
      38.   Describe verifying proper application functioning and performance

J.   Describe User Interface Administration
39.   Perform Log in procedures
40.   Describe GUI interface
41.   Describe CLI Interface
42.   Describe The Linux shell
43.   Describe the VI Editor
44.   Describe the awk

K.   Describe User Accounts and Group Accounts
45.   Create user and group accounts in a Linux environment
46.   Perform adding and removing user account
47.   Demonstrate managing user accounts
48.   Demonstrate creating groups and adding users to groups

L.   Describe Files System and Services Management
49.   Demonstrate Creating/sharing directories
50.   Utilize Using find and grep
51.   Describe Passwords and permissions
52.   Describe Mounting and managing file systems
53.   Describe File system configuration files
54.   Describe Managing run levels
55.   Describe Documenting a Linux system configuration

M.   Describe Daemons
56.   Describe Linux daemons
57.   Describe Starting, stopping, and restarting daemons
58.   Start the HTTP daemon.
59.   Demonstrate setup of the FTP daemon.
60.   Demonstrate setup of Telnet daemon.
61.   Describe Server Message Block (SMB) protocol
62.   Describe NFS (Network File System)
63.   Describe Mail Client
64.   Demonstrate setup of a printer in a Linux Environment
65.   Utilize a basic Script

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.