SYLLABUS

Mr. John Cannady

NETWORKING 1

Textbook

None

Instructional Philosophy

Students will be expected to meet all course objectives. Students should demonstrate their understanding through completion of lab work, projects, and activities assigned. Lab activities will require students to apply concepts and troubleshooting techniques taught in class. The skills learn will enable students to become proficient at computer hardware, software, networks, and the Internet.

Program Goals

The Networking 1 program will

a. Develop organizational skills
b. Enable students to complete all labs
c. Encourage participation in class discussion
d. Enable students to participate in all lab skills
e. Encourage participation and cooperation in other assigned projects and activities related to the unit being studied

Prerequisite

None

Course Schedule

The Networking 1 course is a 1 credit course.

Course Fees/Club Dues

Course Fee: $20

Skills USA Fee: $25

Grade Scale

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

Assessments

1. **Major (65% of Grade)**
    a. Skills
    b. Projects
    c. Major Assessments
    d. End of Chapter/Module
    e. Major Online Assessments
    f. Community and Home Service
    g. Parent Signed Forms/Assessments

2. **Minor (35% of Grade)**
    a. Journals
    b. Homework
    c. Daily Tasks
    d. Notes Check
    e. Online Assignments
    f. End of Chapter Reviews
    g. Open Book Assessments
    h. Contribution in class lesson
    i. Team Development Exercises
    j. Returned Items (Signed Papers)
    k. In or Out-of-Class Assessments

Teacher Credentials

*M.S., Adult Education, Troy University of Montgomery
*B.S., Management of Human Resources, Faulkner University
*A.A.S., Instructional Technology/Military Science, CCAF
*A.A.S., Aerospace Ground Equipment Technology, CCAF
*Professional Educators Certificate: JLC-0034-7927
*CCNA: CSC011079748
*CCAI: 3391181CCNA
*C-Tech Copper Based Systems Instructor: 01-04-C-0601-1
*C-Tech Fiber Based Systems Instructor: 01-04-F-0601-1
*Microsoft Certified Professional: F866-3365
*MTA: Windows Operating System Fundamentals: F866-3366
*MTA: Windows Networking Fundamentals: F866-3367
*PC Pro A+: C923
* Internet and Computing Core (IC3): 21July2004
*Internetworking Level 1 Certification: 347927
*Industrial Maintenance Level 1 Certification: 347927

Essential Questions

- Why are *protocols* important for networking?
- What are the advantages of a client/server network when compared to a peer-to-peer network?
- What is the main characteristic of a *subnet*? How can you tell one subnet from another?
- How does an *intranet* differ from the Internet?
- What is the main purpose of an *extranet*?

Course Description

Students in Grades 9-12 experience significant growth and development as they assume more complex responsibilities such as working and making career choices. They are continuing to develop unique personalities and are making important life decisions. High school students are developing and practicing leadership and interpersonal communication skills in the school and community that facilitate entrance into adulthood. They continue to experience physical and emotional changes as well as to seek opportunities for developing independence and individuality.

Grades 9-12 students have broadened their perspective regarding the importance of existing and developing technologies and have an understanding of the scope of technology in today's world. As students progress through the high school years, they are able to address a variety of problems on a variety of topics in a logical manner. Technology offers students an efficient means by which many types of problems may be solved.

Networking 1 is a one-credit course designed to provide students with skills involving a hands-on, career-oriented approach to learning networking that includes practical experiences. This course includes activities that emphasize the application of networking in terms of implementation and career opportunities. It is recommended that Information Technology Fundamentals be taken prior to this course.

Career and technical student organizations are integral, co curricular components of each career and technical education course. These organizations serve as a means to enhance classroom instruction while helping students develop leadership abilities, expand workplace-readiness skills, and broaden opportunities for personal and professional growth.

The content standards in this course are designed around content organizers that emphasize hands-on, practical activities that extend beyond the computer classroom or laboratory. Course content should be integrated into other curricular areas to allow students to reinforce and expand technology competencies. As students become proficient users of computers and other technologies in the classroom, the benefits of using these tools for researching, analyzing, and synthesizing information beyond the classroom become evident. Technology literate students realize that technology tools and resources enhance not only educational endeavors but also personal and professional success as well.

Course Goals

NETWORKING 1

Computer Basics

Students will:

1. Describe the purpose and function of personal computers, including software applications and Internet applications.

2. Explain digital representations of common forms of data.

    Examples: binary, hexadecimal

3. Demonstrate the process of installing, verifying, and upgrading computer components.

Networking

4. Determine appropriate components and peripheral devices to meet networking requirements.

5. Explain how communication occurs across a local Ethernet network.

6. Describe access layer devices and communication methods on a local Ethernet network.

7. Differentiate between client and server interaction.

8. Describe various components and structures of a wireless local area network (LAN).

9. Analyze wired and wireless networks for common hardware and connection issues.

10. Utilize the troubleshooting process to identify and solve common problems with a LAN.
    - Interacting with the computer help desk
    - Utilizing a bottom-up or top-down troubleshooting methodology

System Design

11. Describe the purpose of a layered model to illustrate the interaction of various protocols.

12. Utilize mathematics skills to design a LAN.

13. Describe the process of using and connecting to an Internet Service Provider (ISP).

14. Compare various methods of obtaining an Internet Protocol (IP) address.

15. Describe applications of Network Address Translation (NAT) on a home or small business network.

Security

16. Evaluate wireless security issues and mitigation strategies for improved security.

17. Utilize research results to determine ways to improve network security, including evaluating current network threats and methods of attack.

18. Describe attack mitigation strategies and different security applications.

Career Opportunities

19. Determine career and entrepreneurial opportunities, responsibilities, and educational and credentialing requirements related to networking professions.

Attachment (A)