SYLLABUS

DATE OF LAST REVIEW: 02/2013
CIP CODE: 46.0302
SEMESTER: Departmental Syllabus
COURSE TITLE: Communication Fundamentals
COURSE NUMBER: ELET0206
CREDIT HOURS: 2
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.

PREREQUISITE (S): None

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC TEC bookstore, http://www.kckccbookstore.com, for the required texts for your particular class.

COURSE DESCRIPTION: This course is designed to provide specialized skills for installing and testing local area network cabling and wireless installation. Twisted-pair, coax and fiber cables will be introduced and contrasted based on their characteristics and applications. Laboratory exercises for terminating and testing network cables and installing wireless systems will accompany the lectures. Students will be trained how to use common wiring tools and testing instruments. Methods of documenting LAN systems will also be introduced.

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

**COURSE OUTLINE:**

I. Identify the Components of a Structured Cabling System  
   A. Identify entrance facilities, backbone, horizontal, work areas.  
   B. Identify equipment rooms and telecommunications closets.  
   C. Identify cross-connects.

II. Contrast the Characteristics of Common LAN Cabling Systems

III. Identify the characteristics of Ethernet (Thicknet, Thinnet, 10BaseT) systems.

IV. Identify Common Local Area Network Devices  
   A. Identify the characteristics of the network interface card.  
   B. Identify the characteristics of hubs.  
   C. Identify the characteristics of LAN connectivity devices.

V. Identify Industry Standards for Local Area Networks

VI. Identify the standards of the National Electrical Code as it pertains to Local Area Networks.

VII. Read Blueprints  
    A. Read and interpret symbols.  
    B. Read and interpret abbreviations.

VIII. Identify and Evaluate Types of LAN Cabling

IX. Identify the characteristics of twisted pair (UTP, STP-A), coaxial and fiber optic (single mode and multimode) cables.

X. Identify the characteristics of attenuation, cross-talk, impedance, capacitance.  
   A. Identify cable connectors (UTP, STP-A, coaxial, optical fiber).  
   B. Explain connector pin configurations.  
   C. Identify color codes.

XI. Explain Grounding, Bonding and Electrical Protection  
    A. Identify hazardous environments.  
    B. Identify personal protective equipment.  
    C. Explain common safety practices.

XII. Prepare for the Installation  
    A. Perform a site survey.  
    B. Build closets.
C. Install grounding infrastructure.

XIII. Pull Cable
   A. Pull backbone and horizontal twisted pair cable.
   B. Pull optical fiber cable.
   C. Install firestopping.

XIV. Terminate Cable
   A. Terminate copper cable.
   B. Terminate coaxial cable.
   C. Terminate optical fiber cable.

XV. Test Cable
   A. Test and certify copper cable.
   B. Test and certify optical fiber cable.

XVI. Troubleshoot Cable
   A. Troubleshoot copper cables.
   B. Troubleshoot optical fiber cables.

XVII. Perform Administrative Tasks
   A. Document results.
   B. Complete daily reports.

XVIII. Describe the ordering and management of inventory materials and supplies.

EXPECTED LEARNER OUTCOMES:
A. The student will be able to identify the components of structured cabling systems.
B. The student will be able to contrast the characteristics of common LAN cabling systems.
C. The student will be able to identify common local area network devices.
D. The student will be able to identify industry standards for local area networks.
E. The student will be able to read blueprints.
F. The student will be able to identify and evaluate types of LAN cabling.
G. The student will be able to explain grounding, bonding and electrical protection.
H. The student will be able to terminate cable.
I. The student will be able to test cable.
J. The student will be able to troubleshoot cable.

CORE COMPETENCIES:
Upon successful completion of this course the student should be able to:

The student will be able to identify the components of structured cabling systems.
1. The student will be able to explain types of cabling.
2. The student will be able to explain micro circular mils.
The student will be able to contrast the characteristics of common LAN cabling systems.

3. The student will be able to describe Cat 5 cable.
4. The student will be able to describe Cat 6 cable.
5. The student will be able to determine types of cables.

The student will be able to identify common local area network devices.

6. The student will be able to explain LAN devices.
7. The student will be able to test for low voltage.

The student will be able to identify industry standards for local area networks.

8. The student will be able to explain current LAN standards.
9. The student will be able to describe cable designations.

The student will be able to read blueprints.

10. The student will be able to determine symbol designations.
11. The student will be able to determine function of symbols.
12. The student will be able to determine location of devices.

The student will be able to identify and evaluate types of LAN cabling.

13. The student will be able to determine location for LAN cabling.
14. The student will be able to determine conductor size and location.

The student will be able to explain grounding, bonding and electrical protection.

15. The student will be able to locate a grounding electrode.
16. The student will be able to locate a bonding ground.

The student will be able to terminate cable.

17. The student will be able to use correct tool to terminate.

The student will be able to test cable.

18. The student will be able to determine viability of cable.
19. The student will be able to make test trials.

The student will be able to troubleshoot cable.

20. The student will be able to determine functionality.
21. The student will be able to use meters to test.

ASSSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome anytime.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

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