DATE OF LAST REVIEW: 02/2013

CIP CODE: 11.0901

SEMESTER: Departmental Syllabus

COURSE TITLE: Voice and Data Cabling

COURSE NUMBER: NETW 0142

CREDIT HOURS: 7

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): NETW 0140 Home and Small Business Networking

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

COURSE DESCRIPTION:
This course is an introduction to the basic concepts, theories, and research findings in the evolving field of psychology. By learning to think psychologically, students gain insight into themselves and the dynamics of human thinking, behavior, and emotions.

METHOD 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. Cabling and Safety Overview
   A. Introduction to Cabling
   B. The Cabling Job Market
   C. Safety Codes and Standards
   D. Safety Around Electricity
   E. Lab and Workplace Safety Practices

II. Networking Basics
   A. Networking Overview
   B. Network Topologies
   C. OSI Model Overview
   D. Physical Layer Functions
   E. Data Link Layer and Network Layer Functions
   F. Other Layer Functions

III. Signals and Wires
   A. Signal Transmission
   B. Basics of Electrical Signals
   C. Electronic Characteristics of Cables
   D. Grounding and Bonding
   E. Basics of Optical Theory
   F. Wireless Systems Theory
   G. Signals on Networks
   H. High-Bandwidth and Backbone Signals

IV. Copper Media
   A. Overview
   B. Twisted-Pair
   C. Coaxial Cable
   D. Outside Plant Cables

V. Fiber-Optic Media
   A. Fiber-Optics
   B. Advantages and Disadvantages
   C. Construction
   D. Connectors
   E. Transmission

VI. Introduction to Cabling Standards
   A. Introduction to Cabling Standards
   B. Standards Organizations
   C. A Closer Look at Electrical Codes
   D. Building codes and code enforcement
VII. Structured Cabling
A. Structured Cabling Systems
B. Demarcation Point
C. Telecommunications and Equipment Rooms
D. Telecommunications Room Equipment
E. CD, BD, FD (MC, IC, and HC)
F. Work Area Cabling

VIII. Tools of the Trade
A. Tools of the Trade
B. Tool Usage and Material Handling
C. Professionalism

IX. Cabling Installation Process
A. The Installation Process
B. Bid Creation
C. Contract Development, Negotiations, and Planning
D. Project Management
E. Communications and Conflict Resolution
F. Design Documents

X. Cabling Rough-In
A. Rough-In Phase Overview
B. Rough-In Support Tools
C. Cabling to the Work Area (Horizontal Cabling)
D. Vertical Cable Installation (Riser cable)
E. Roughing-In Other Cabling Types
F. Firestops
G. Upgrades and Retrofits

XI. Trim Out Phase
A. The Trim Out Phase
B. Cable Management
C. Terminating Copper Media
D. Terminating Fiber-Optic
E. Patch Panels

XII. Finish Phase
A. Cable Testing and certification
B. Performance testing (certification)
C. Final dressing
D. Cabling Project Completion

XIII. Cabling for Special Situations
A. Special Situation Cabling
B. High Bandwidth cabling
C. Power over Ethernet (PoE)
D. SCADA
E. Industrial Ethernet
F. Active cable maintenance

XIV. Standardization Around the World
A. US Codes?
B. Canadian Standards
C. Japanese Standards
D. Australian and New Zealand Standards
E. European Standards
F. Other Localization Examples
G. Localization Research

EXPECTED LEARNER OUTCOMES:

A. The student will be able to describe Cabling and Safety Overview
B. The student will be able to describe Networking Basics
C. The student will be able to describe Signals and Wires
D. The student will be able to describe Copper Media
E. The student will be able to describe Fiber-Optic Media
F. The student will be able to describe Introduction to Cabling Standards
G. The student will be able to describe Structured Cabling
H. The student will be able to describe Tools of the Trade
I. The student will be able to describe Cabling Installation Process
J. The student will be able to describe Cabling Rough-In
K. The student will be able to describe Trim Out Phase
L. The student will be able to describe Finish Phase
M. The student will be able to describe Cabling for Special Situations
N. The student will be able to describe Standardization Around the World

COURSE COMPETENCIES:

The student will be able to describe Cabling and Safety Overview
1. The student will be able to describe Introductory Cabling
2. The student will be able to describe The Cabling Job Market
3. The student will be able to describe Safety Codes and Standards
4. The student will be able to describe Safety Around Electricity
5. The student will be able to describe Lab and Workplace Safety Practices

The student will be able to describe Networking Basics
6. The student will be able to describe Networking Overview
7. The student will be able to describe Network Topologies
8. The student will be able to describe OSI Model Overview
9. The student will be able to describe Physical Layer Functions
10. The student will be able to describe Data Link Layer and Network Layer Functions
11. The student will be able to describe Other Layer Functions

The student will be able to describe Signals and Wires
12. The student will be able to describe Signal Transmission
13. The student will be able to describe Basics of Electrical Signals
14. The student will be able to describe Electronic Characteristics of Cables
15. The student will be able to describe Grounding and Bonding
16. The student will be able to describe Basics of Optical Theory
17. The student will be able to describe Wireless Systems Theory
18. The student will be able to describe Signals on Networks
19. The student will be able to describe High-Bandwidth and Backbone Signals

The student will be able to describe Copper Media
20. The student will be able to describe Copper Media
21. The student will be able to describe Twisted-Pair
22. The student will be able to describe Coaxial Cable
23. The student will be able to describe Outside Plant Cables

The student will be able to describe Fiber-Optic Media
24. The student will be able to describe Fiber-Optics
25. The student will be able to describe Advantages and Disadvantages
26. The student will be able to describe Construction
27. The student will be able to describe Connectors
28. The student will be able to describe Transmission

The student will be able to describe Introduction to Cabling Standards
29. The student will be able to describe Introduction to Cabling Standards
30. The student will be able to describe Standards Organizations
31. The student will be able to describe A Closer Look at Electrical Codes
32. The student will be able to describe Building codes and code enforcement

The student will be able to describe Structured Cabling
33. The student will be able to describe Structured Cabling Systems
34. The student will be able to describe Demarcation Point
35. The student will be able to describe Telecommunications and Equipment Rooms
36. The student will be able to describe Telecommunications Room Equipment
37. The student will be able to describe CD, BD, FD (MC, IC, and HC)
38. The student will be able to describe Work Area Cabling

The student will be able to describe Tools of the Trade
39. The student will be able to describe Tools of the Trade
40. The student will be able to demonstrate Tool Usage and Material Handling
41. The student will be able to demonstrate Professionalism

*The student will be able to describe Cabling Installation Process*
42. The student will be able to describe The Installation Process
43. The student will be able to describe Bid Creation
44. The student will be able to describe Contract Development, Negotiations, and Planning
45. The student will be able to describe Project Management
46. The student will be able to describe Communications and Conflict Resolution
47. The student will be able to describe Design Documents

*The student will be able to describe Cabling Rough-In*
48. The student will be able to describe Rough-In Phase Overview
49. The student will be able to describe Rough-In Support Tools
50. The student will be able to demonstrate Cabling to the Work Area (Horizontal Cabling)
51. The student will be able to demonstrate Vertical Cable Installation (Riser cable)
52. The student will be able to describe Roughing-In Other Cabling Types
53. The student will be able to describe Firestops
54. The student will be able to describe Upgrades and Retrofits

*The student will be able to describe Trim Out Phase*
55. The student will be able to describe The Trim Out Phase
56. The student will be able to describe Cable Management
57. The student will be able to demonstrate Terminating Copper Media
58. The student will be able to demonstrate Terminating Fiber-Optic
59. The student will be able to describe Patch Panels

*The student will be able to describe Finish Phase*
60. The student will be able to demonstrate Cable Testing and certification
61. The student will be able to demonstrate Performance testing (certification)
62. The student will be able to demonstrate Final dressing
63. The student will be able to describe Cabling Project Completion

*The student will be able to describe Cabling for Special Situations*
64. The student will be able to describe Special Situation Cabling
65. The student will be able to describe High Bandwidth cabling
66. The student will be able to describe Power over Ethernet (PoE)
67. The student will be able to describe SCADA
68. The student will be able to describe Industrial Ethernet
69. The student will be able to describe Active cable maintenance

*The student will be able to describe Standardization Around the World*
70. The student will be able to describe US Codes?
71. The student will be able to describe Canadian Standards
72. The student will be able to describe Japanese Standards
73. The student will be able to describe Australian and New Zealand Standards
74. The student will be able to describe European Standards
75. The student will be able to describe Other Localization Examples
76. The student will be able to describe Localization Research

ASSESSMENT 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 any time.

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.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center at (913) 288-7670 V/TDD.