COURSE SYLLABUS

Tunxis Community College

Education That Works For a Lifetime

Course Title:	Introduction to TCP/IP	**Date submitted:**	Spring 2014 (AAC: 14-28)
Department:	Business and Technology		
Curriculum:	Computer Information Systems		

Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.

Course Code: (eg. ACC 101)	CST*193
Course Type:	X

A: Clinical B: Lab D: Distance Learning
I: Individual/Independent L: Lecture N: M: Seminar Internship
P: Practicum U: Studio
X: Combined Lecture/Lab Y: Combined Lecture/Clinical/Lab Z: Combined Lecture/Studio

Elective Type:	G

E: English FA: Fine Arts FL: Foreign Language G: General
HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math
S: Science SS: Social Science

Credit Hours:	3
Developmental: (yes/no)	No
Contact Hours: Lecture:	3
Clinical:	0
Lab:	0
Studio	0
Other:	0
TOTAL:	3
Class Maximum:	24
Semesters Offered:	F/S

Prerequisites:

Network Essentials I (CST*130)

Corequisites:

None

Other Requirements:

None

Catalog Course Description:

Students learn the underlying applications, components and protocols of TCP/IP and its necessary link to the Internet, and how to identify TCP/IP layers, components and functions. Navigation tools, TCP/IP services and troubleshooting methodologies are also discussed.

Topical Outline: List course content in outline format.

1. Overview of TCP/IP Applications
    a. Web browsers and servers
    b. Telnet
    c. File Transfer Protocol
    d. Electronic Mail
    e. Network Management
2. TCP/IP Structure and Addressing
    a. Internet Protocol Suite
    b. Internet Protocol Addressing
    c. Creating Subnets
    d. Address Resolution

e. Domain Name System
f. Internet Control Message Protocol
g. Internet Group Management Protocol

3. TCP/IP Protocols
   a. Internet Protocol
   b. Internet Protocol Routing
   c. User Datagram Protocol
   d. Transmission Control Protocol and Connection Establishment
   e. Transmission Control Protocol and Data Transmission
   f. Routing Protocols
4. How TCP/IP Applications Work
   a. Web browsers and servers
   b. Telnet
   c. File Transfer Protocol
   d. Simple Mail Transfer Protocol
   e. Network Management
5. Troubleshooting a TCP/IP Network
   a. Troubleshooting Principles
   b. WINICFG
   c. Ping
   d. Traceroute
   e. Nbstat and Netstat
   f. Address Resolution Protocol

Outcomes:
Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.

Upon successful completion of this course, the student will be able to do the following:

COURSE:

1. Demonstrate an understanding of the TCP/IP layers, components and functions
2. Identify the services that TCP/IP applications provide
3. Identify the protocols used to transport data over the Internet
4. Utilize a variety of tools to navigate and search the Internet
5. Install, maintain and troubleshoot a TCP/IP Network

PROGRAM: *(Numbering reflects Program Outcomes as they appear in the college catalog)*

CIS: Network Administration Option

Install, maintain, administer and troubleshoot a network using the various TCP/IP protocols

GENERAL EDUCATION: *(Numbering reflects General Education Outcomes as they appear in the college catalog)*

2. **Critical Analysis/ Logical Thinking -** Students will be able to organize, interpret, and evaluate evidence and ideas within and across disciplines; draw reasoned inferences and defensible conclusions; and solve problems and make decisions based on analytical processes.

   Demonstrates: Identifies the issue(s); formulates an argument; explains and analyzes relationships clearly; draws reasonable inferences and conclusions that are logical and defensible; provides support by evaluating credible sources of evidence necessary to justify conclusions.

   Does Not Demonstrate: Identifies few or no issues; formulates an argument without significant focus; provides an unclear explanation of analysis and relationships; drawing few reasonable inferences and conclusions that are illogical and indefensible; provides little to no support using credible sources of evidence necessary to justify conclusions.

Evaluation: List how the above outcomes will be assessed.	**Assessment will be based on the following criteria:** 1. Hands-on assignments, project, and case studies will demonstrate a student's ability to use TCP/IP protocols 2. Written examinations will demonstrate an understanding of major facts, procedures and theories. At least one assignment or project will be designated as an electronic portfolio piece for uploading to ePortfolio.org.
Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.	Required: Computer Lab Desired: None
Textbook(s)	Refer to current academic year printout.