Tompkins Cortland Community College

Master Course Syllabus

Course Discipline and Number: CIS 132 **Year: 2023-2024**
Course Title: Network Design **Credit Hours: 3**

Attendance Policy: *To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. It is the responsibility of all instructors to distribute reasonable attendance policies in writing during the first week of class. Students are required to comply with the attendance policy set by each of their instructors. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors. See college catalog for more information.*

Services for Students with Disabilities: *It is the College's policy to provide, on an individual basis, appropriate academic adjustments for students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the Coordinator of Access and Equity Services, to discuss their particular need for accommodations. All course materials are available in alternate formats upon request.*

Course Description

Covers design, installation, and maintenance of local area networks. Topics include installation of hardware and network software, installation of application software, system configuration, hardware and software testing, setting up directories, user accounts, and user access rights. Discussion of different network topologies, medium, and software are also included. Prerequisites: CIS 108 or CSCI 160; MATH 095 and RDNG 099 if required by placement testing; ENGL 099 or prior completion or concurrent enrollment in ESL 120, 121, and 122 (or prior completion of ESL 103) if required by placement testing. 3 Cr. (2 Lec., 2 Lab.) Spring semester.

Course Context/Audience

This is a required course for the CIS major. Students with appropriate background who are interested in learning about network installation may choose this as an elective.

Basic Skills/Entry Level Expectations

Writing: W2 Student should have completed ENGL 099 (if needed). The course requires short written responses and/or short papers without documentation, particularly personal reflection or narrative.

Math: M4 Completed MATH 095(if needed) - Course requires the use of basic mathematical skills plus basic algebra skills.

Reading: R2 Before taking this course, students must have a C or better in RDNG 099 or assessment indicating that RDNG 099 was not required.

Course Goals

This course has two primary goals:

1. To introduce students to the different topologies, hardware, and software used in networking, and
2. To give students experience building a local area network.

Course Objectives/Topics

Objective/Topic	# Hours
The student will be able to discuss the history of electronic communications, using appropriate terminology.	6 Hours
The student will be able to describe a minimum of 2 different network topologies and their advantages/disadvantages, using appropriate networking terminology.	6 Hours

The student will be able to describe the uses and differences between networking software and application software.	2 Hours
The student will be able to describe and compare local area networks and wide area networks.	2 Hours
The student will be able to determine and describe the configuration of a computer.	6 Hours
The student will be able to set up directories on a networked computer system.	4 Hours
The student will be able to install appropriate cable in a network.	6 Hours
The student will be able to install the appropriate hardware and software needed in a networked environment.	11 Hours
The student will be able to test the networked hardware and software for functionality.	11 Hours
The student will be able to use the network software to establish user accounts, access rights, and security settings.	6 Hours

General Education Goals - Critical Thinking & Social/Global Awareness

CRITICAL THINKING OUTCOMES	**HOW DOES THE COURSE ADDRESS THE OUTCOMES** (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
Students will be able to ➢ develop meaningful questions to address problems or issues. ➢ gather, interpret, and evaluate relevant sources of information. ➢ reach informed conclusions and solutions. ➢ consider analytically the viewpoints of self and others.	Projects will be presented that will require the student to investigate and develop questions to be resolved. Students will use technical skills developed in lab projects and refer to industry documentation and specifications to gather necessary information to address projects. Using the above resources, students will be able to resolve issues and develop solutions. Students will refer to several resources, and work with other students to investigate differing viewpoints and develop solutions.
SOCIAL/GLOBAL AWARENESS OUTCOMES	**HOW DOES THE COURSE ADDRESS THE OUTCOMES** (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
➢ Students will begin to understand how their lives are shaped by the complex world in which they live. ➢ Students will understand that their actions have social, economic and environmental consequences.	Not addressed

Instructional Methods
This course is taught in a lecture/laboratory environment. Demonstrations of necessary techniques and procedures are appropriate, especially in small groups. Students must be given the opportunity to work with actual hardware and software to gain experience building a network.

Methods of Assessment/Evaluation

Method	% Course Grade
Examinations/practical exams	60%
Hands-on projects	40%

Text(s)
Hands-on Networking Fundamentals, Latest Edition, © 2006 Course Technology

Bibliography
Derfla Jr., Frank J. How Networks Work, 7th edition, © 2004: Que.

Oppenheimer, Priscilla. Top Down Network Design, 2nd edition, © 2004: Cisco Press.

Other Learning Resources

Audiovisual No resources specified
Electronic No resources specified
Other No resources specified