

**NET 230**  
**Telecommunications**  
**Fall 2008**

**Course Description:**

Introduces students to the technology underlying the public switched telephone network. Topics include history, technical, legal and business issues; customer premises equipment; central office switching; the SS7 network; interexchange carriers; data communication techniques; signaling, transmission media, and wireless

**Prerequisite:** Net 130 or equivalent

**Meeting days/time:** M 2-3:15, Wed 11-12:15

**Instructor:** Jim Hoag

**Email:** jhoag@champlain.edu

**Office:** West 108

**Office Hours :** M-W, F 1-2

**Text:** Guide to Telecommunications Technology, Tamara Dean, Thompson Course Technology 2003

**II. Summary of Instructional Methods:**

In this class students can expect the instructor to use the following techniques to facilitate students' acquisition of knowledge about business data communications and skills related to putting this knowledge into practice:

- A. Lecture and discussion on data communications issues with a heavy emphasis on concepts.
- B. In and out of class exercises involving students' application of network knowledge.
- C. In class problems involving students doing group exercises about data communications.
- D. Discussion with the instructor about course material and course-related assignments.
- E. Textbook assignments intended to develop students' application of course concepts to actual "real-life" circumstances.
- F. Testing of students' comprehension and understanding of course material to assess students' ability to retain, synthesize and apply basic theories and concepts pertaining to the subject matter presented in the text and lecture.

### **III. Students' Learning Objectives**

Using the instructional methods outlined above as a means to accomplish the course objectives, this course is designed to foster students' ability to accomplish the following objectives:

- Outline the history of business networks
- Describe how data is communicated as a signal on a physical medium.
- Explain and identify the role of standards and standards organizations in the data communications marketplace.
- Discuss the structure and components of business phone and data networks.
- Describe the 7 layers of the OSI model, identify the major functions of each layer and its use in the business communications process.
- Describe the operation of common Local Area & Wide Area network protocols.
- Demonstrate knowledge of media, topologies, hub/switches, routers and network interface cards.
- Identify and contrast enabling technologies in both the business network environment as well as for residential applications.
- Review the history and operation of the TCP/IP protocol suite.
- Discuss the structure and operation of the Internet and its importance to business today.
- Identify concerns and potential solutions for bandwidth constraints.
- Understand the security aspects of data communications and implications in implementing and managing communications resources.

### **IV. Criteria and Methods for Evaluating Students:**

A. Tests – Tests will be used to measure students' basic comprehension, understanding and application of selected theories and concepts introduced in the text, lectures and discussions. In this sense the tests will be used as a means to measure knowledge and skill application across all the aforementioned learning objectives.

1. Each test will be a combination of multiple choice and essay questions. The instructor will identify the specific concepts and terms to be covered on a test prior to the day of the test to enable students to focus their review of the material.

a. Multiple choice questions will focus on measuring students' ability to identify theories and concepts and apply those theories and concepts to examples provided in the questions.

b. Essay questions will be used to measure students' ability to synthesize and apply material covered to address potential or actual data communications environments.

B. Textbook assignments - Exercise based assignments will be used to assess students' knowledge and skill levels in relation to specific subject areas within the main topic of data communications. These assignments are also designed to challenge students' ability to demonstrate the course concepts as they relate to specific business environments. **YOU ARE RESPONSIBLE FOR COMPLETING ASSIGNMENTS ON TIME AND TURNING THEM IN TO ME IN A SUITABLE FORMAT. ALL WRITTEN ASSIGNMENTS MUST BE TYPED!** The textbook assignments will count as 10% of a student's final grade.

C. Paper/Demonstration – A paper or presentation of a data communications concept with written explanation (10% of your total grade for the class).

This assignment is designed to evaluate your competency at applying course concepts to 1) research 2) analyze a specific topic related to data communications 3) produce a paper or demonstration model and operate it for the group.

D. Quizzes (20% of your grade)

There will be approximately 5 quizzes. Each quiz is a short (3-5 questions) short answer exercise. This will test the most recent reading and terms from the textbook and lecture discussions.

**V. Assignment Values and Grade Definitions**

**Assignment values: \_\_\_\_\_ percentage of grade**

2 tests .....30% of total grade

Final Exam .....	20% of total grade
Quizzes.....	20% of total grade
Textbook Assignments.....	10% of total grade
Participation/Classroom Activities.....	10% of total grade
Paper/Demonstration .....	10% of total grade

Final letter grades will be based on the scale recommended by Champlain College:

**VI. Other Course Policies:**

Students are expected to attend all classes. Not doing so may jeopardize your academic success. If illness, accident or similar circumstances make it impossible to attend a class, you should immediately notify me to discuss the situation. You are still responsible for covering the material and making up the work prior to the next class. Waiting until the next class to find out what was covered will not work. You are responsible for obtaining and completing the assignment.

As attendance us associated with participation, a students grade may suffer for excessive absences. If a student has more than 2 weeks worth of unexcused absences, 10% of participation grade (1% of final grade) will be deducted for each absence thereafter.

In general no make-up quizzes or tests will be allowed without communication between you and I prior to the test/quiz. This means that you have contacted me notifying me of your circumstances and reason for not being able to take the quiz/test and we have discussed the possibility of a makeup. Simply missing that day and expecting to take a makeup at your discretion is not an option.

If you believe that you have a disability requiring accommodations in this class, please contact the Coordinator of Support Services for Students with Disabilities as soon as possible. After you receive your accommodation form, please see me so I can work with you to implement them in a timely fashion.

**VII. Academic Honesty:**

In the preparation and presentation of any assigned work-including examinations, tests, quizzes, term papers, reports, themes and other written or oral exercises-every student shall conform to a strict standard of academic honesty. Any attempt to deceive a faculty member or to help another student to do so will be considered a violation of this standard. In all assignments, students must acknowledge the words and/or ideas of others taken from print or electronic media, whether a direct quotation or a paraphrase; any omission of this is dishonest. Cheating on examinations or tests consists of knowingly giving, receiving or using-or attempting to give, receive or use-unauthorized assistance during an examination or test. A faculty member may record a grade of "zero" for any assignment on which a student has plagiarized or cheated. For repeat offenses within a single course, the faculty

member may record a grade of "F" for the course. Violations of this policy in multiple courses may result in dismissal from the College. A student may appeal these decisions according to the Academic Grievance Procedure.

**VII. NET-130-01(Introduction to Data Communications) - Fall, 2007 Course Calendar**  
**(most recent version will be posted on web site)**

Week	Topic	T
Jan 8	Intro, Ch 1	
Jan 15	Ch 2	
Jan 22	Ch 3	
Jan 24	Ch 4	Quiz Ch 1,2, 3
Jan 31	Ch 5	
Feb 5	Test Ch 1-5	
Feb 12	Ch 6	
Feb 19	Ch 7	
Feb 26	Spring Break	
Mar 4	Ch 8	
Mar 11	Ch 9	Quiz CH 6-8
Mar 18	Ch10	
Mar 25	Test CH 6-10	
Apr 1	Ch 11	
Apr 8	Ch 12	
Apr 15	Presentations	
Apr 22	Final	