

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: COMPUTER NETWORKS

Course No. : CET314

Program: COMPUTER ENGINEERING

Semester: 6

Date: JANUARY, 1988

Author: TYCHO BLACK

New: X Revision:

APPROVED:

L.P. Clouston
Chairperson

SS/01/12
Date

CET314

COMPUTER NETWORKS

GENERAL OBJECTIVES:

This course in Computer Networks for Computer Technology students in their 6th semester, expands upon the basic principles of Data Communications developed in CET222. Computer networking topics in the following specific areas are studied: Protocols for communication between computers; the 7-layer OSI Model of computer networks, DECNET-VAX networking software; Local Area Networks, Packet Switching; Satellites for data communications; and personal computer networks.

Lab exercises on computer networks form an important component of this course.

TEXTBOOK: "COMPUTER NETWORKS, PROTOCOLS, STANDARDS AND INTERFACES" by U. BLACK

REFERENCES: DIGITAL NETWORKS: AN ARCHITECTURE WITH A FUTURE
VAX/VMS GUIDE TO NETWORKING

LENGTH OF COURSE: 3 Hours per week for 1 semester.

METHOD OF ASSESSMENT:

3 THEORY TESTS	60%
LAB PROJECTS & ASSIGNMENTS	40%

GRADING SCHEME

COURSE: CET314

1. TESTS

Written tests will be conducted as deemed necessary. They will be announced about one week in advance. Quizzes may be conducted without advance warning.

2. GRADING SCHEME

A+	90	-	100%	Outstanding achievement
A	80	-	89%	Above average achievement
B	70	-	79%	Average Achievement
C	55	-	69%	Satisfactory Achievement
I	Incomplete: Course work not complete at Mid-term. Only used at mid-term.			
R	Repeat			
X	A temporary grade that is limited to instances where special circumstances have prevented the student from completing objectives by the end of the semester. An X grade must be authorized by the Chairman. It reverts to an R if not upgraded in an agreed-upon time, less than 120 days.			

4. UPGRADING OF INCOMPLETES

When a student's course work is incomplete or final grade is below 55%, there is the possibility of upgrading to a pass when the student's performance warrants it. Attendance and assignment completion will have a bearing on whether upgrading will be allowed. A failing grade on all tests will remove the option of any upgrading and an R grade will result. The highest grade on re-written tests or assignments will be 56%.

The method of upgrading is at the discretion of the teacher and may consist of one or more of the following options: assigned make-up work, re-doing projects, re-doing of tests, or writing comprehensive supplemental examination.

SPECIFIC OBJECTIVES

CET314

TEXT: "COMPUTER NETWORKS", UYLESS BLACK

Students will be able to demonstrate understanding in the following subject areas:

BLOCK 1: INTRODUCTION TO COMPUTER NETWORKS (CHAP. 1,2)

1. Network structures and topologies.
2. Data communications concepts essential to networks. (review)
3. The variety of procedures that DTE's use to exchange data.
4. The classification of communication protocols.

BLOCK 2: LAYERED PROTOCOLS, THE OSI MODEL, AND DECNET (CHAP. 3)

1. The nature of layered protocols in networks.
2. The layers of OSI, Open Systems Interconnection, layered protocol model for networks.
3. DECNET and DNA: (Ref. "Digital's Networks: An Architectur with a Future")
 - a) Decnet definitions and basic concepts.
 - b) Decnet configurations.
 - c) Decnet functions.
 - d) Task to task communications.
 - e) Remote file and record access.
 - f) Network Terminal facilities.
 - g) Network System Management.

BLOCK 3: SATELLITE NETWORKS AND LOCAL AREA NETWORKS

1. Satellites in computer networking.
2. Local Area Network IEEE Standards.
3. IBM Token Ring LAN, Fiber Distributed Data Interface (FDDI and MAP, GM's Manufacturing Automation Protocol.

BLOCK 4: PACKET SWITCHING, X.25 NETWORKS AND ISDN (CHAP. 7, 8, 9)

1. The nature of packet switching.
2. X.25: the CCITT standard for packet networks.
3. ISDN; Integrated Services Digital Network- an overview.

BLOCK 5: PUBLIC NETWORKS, PERSONAL COMPUTER NETWORKS AND THE PBX
(CHAP 10, 11, 12)

1. Public Networks in Canada and the US.
2. Personal computers as elements in a network.
3. The evolution of PBX's to their Fourth Generation capabilities and their networking capabilities.