



CO 354 & IM 354 - Testing and Controlling LANs

I. Catalog Description

CO 354 & IM 354 - Testing and Controlling LANs

Prerequisites: CO 352 or IM 352 or equivalent

This course explores local area network (LAN) topologies and their associated protocols. The course introduces ways of interconnecting, securing, and maintaining LANs. It provides students with hands-on experience in the interconnection of multiple LANs. It also presents a hands-on approach to design, testing and administration of interconnected LANs.

II. Course Objectives

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

A. Match various LAN topologies with their associated protocols.

B. Interconnect separate LANs

C. Distinguish between the different LAN interconnection devices and their operation.

D. Distinguish between various IEEE (institute of Electrical and Electronic Engineers) 802 Standard LAN packets.

E. Diagnose common LAN problems and develop solutions for them

Comments: Pooling consists of NICs (Network Interface Cards) and IPGs (Internet

toward the 40%. Examinations consist of short-answer, analysis, and what-if questions.

40% ~~Project~~ Selected projects covering LAN maintenance, troubleshooting

interconnection, etc.

Grading Scale: The standard grading scale will be used.

90%+=A; 80-89%=B; 70-79%=C; 60-69%=D; below 60%=F.

V. Required Textbook(s), Supplementary Books and Readings

Fitzgerald, J., *Business Data Communications: Basic concepts, Security, and Design*, (Fourth Edition), John Wiley and Sons, Inc., New York, NY 1993.

Harbaugh, L.G., *Novell's Problem-Solving Guide for NetWare Systems*, SYBEX, Inc. Alameda, CA 1993.

Held, G., *Data Communications Networking Devices*, (Second Edition), John Wiley and Sons, New York, NY 1989.

Lawrence, B., *Using Novell NetWare*, (Second Edition), Que Corporation, Indianapolis, IN 1992.

Madden, J., and Stuple, S. J., (Editors), *Networking Essentials*, (Second Edition), Microsoft Press, Redmond, WA 1998.

Moshos, G.J., *Data Communications: Principles and Problems*. West Publishing Co., St.

Paul, MN 1989.

Ramos, E., Schroeder, A., and Simpson, L., *Data Communications and Networking Fundamentals Using Novell NetWare* Macmillan Publishing Company New York NY

Course Analysis

Section 1: Description of

A1 LANs have grown to become quite popular and many of our majors have obtained jobs as LAN managers. Some of our graduates have obtained jobs as

as LAN managers. The departments, at the moment, do not have courses which explicitly teach the ideas of LANs as proposed in this course. Both departments' Computer

Section C: Implementation

C1 Faculty resources are currently adequate.

C2 Resources needed for this course are available although they can be improved.

a. Space: Classroom space is adequate. The Eberly networking laboratory is adequately equipped for this course.

b. Equipment: The Eberly networking laboratory is adequately equipped for this

Laboratory Supplies and other Consumable Goods: Both departments have

licensed copies of network operating systems and some applications software for



Date: December 16, 1998

Subject: Letter of Support for Computer Science Department

To: Dr. William Oblitey, Chair, Computer Science Department
Mr. James Wolfe, Computer Science Department

From: Kenneth L. Schildt, Chair, MIS and Decision Sciences Department *KLS*
Elizabeth M. Pierce, MIS and Decision Sciences Department *EMP*

The MIS and Decision Sciences Department supports the course proposals for CO/IM 352 Local Area Networks Design and Installation as it is being proposed as a course for Computer Science, Office Systems, and MIS majors. This course

Subject: Computer Science Curriculum Support
Date: Wed, 16 Dec 1998 15:34:43 -0500

From: "Mr. Kenneth Schild" <kschild@...>

TO: William Oblitey, Chair
Computer Science Department

Management Information Systems Department

FROM: Wayne Moore, Chair
Office Systems and Business Education Department

DATE: December 16, 1998

SUBJECT: CO/IM 354 NEW COURSE PROPOSAL

The Office Systems and Business Education department faculty have

proposal for CO/IM 354—Testing and Controlling LAN's. The department supports this course proposal.

The content of the course is relevant to all technology majors at IUP. Students in our program will benefit by this course.

The cooperative effort that led to the development of this course strengthens the university's technology programs.