

PRINCE GEORGE'S COMMUNITY COLLEGE  
OFFICE OF INSTRUCTION

**MASTER COURSE SYLLABUS**

<u>CIS 140 Introduction to Local Area Networks</u>	<u>Barry W. Bugg</u>	
Course Designator and Title	Prepared by	Date
<u>Barry Bugg</u>	<u>Eric Grosse</u>	
Department Chairman	Instructional Dean	Date

**COURSE DESCRIPTION:**

3 Credits. An overview of local area networks and the role these systems play in complete information systems. Emphasis will be placed on LAN hardware, software, standards and protocols. (Formerly CIS 175; credit may not be received for both CIS 175 and CIS 140.) Prerequisite: CIS 101 or ENT 177. 3 class hours.

**EXPECTED COURSE OUTCOMES:**

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

1. Define Local Area Network using data communications terminology.
2. Name the seven layers of the Open Systems Interconnection model and describe the function of each layer.
3. Describe the different types of cabled media and explain advantages and disadvantages of each.
4. Describe the different types of wireless media and explain advantages and disadvantages of each.
5. Describe the appropriate type of LAN media to employ given typical business scenarios.
6. Differentiate between the functions of common connectivity hardware such as repeaters, hubs, bridges and routers.
7. Design an appropriate LAN for a small business, including hardware selection, software selection, media and connector selection, pricing all equipment for the LAN, and drawing a suitable physical layout for the LAN.
8. Describe the role of network connectivity software.
9. Explain the function of a Network Operating System as it operates on the file server.
10. Explain the function of Client Workstation software, in enabling network communication.
11. Describe collision detection methods used in LAN communications.

12. List the necessary steps involved in LAN installation.
13. Describe LAN security procedures via the assignment of passwords, creation of login identification, and granting of file system rights and privileges.
14. Differentiate between partial or incremental and differential backup methods.
15. Explain technology differences between LANs and WANs.
16. Describe the effect of Internet technology on LANs.

## **RANGE OF SUBJECT MATTER -- MODEL COURSE OUTLINE:**

(Exact sequence of topics and emphasis may vary with each individual instructor within the limits defined in the preceding course description.)

Week	Topic
1	Introduction to Data Communications
2	Introduction to Local Area Networks
3	Hardware Introduction and LAN Media
4	Topologies and Media Access Control
5	LAN Hardware (including connectivity hardware such as repeaters, hubs, bridges and routers)
6	Test 1 given during this week Software Introduction
7	LAN System Software
8	Client/Server Architecture
9	LAN Installation
10	LAN Admin: Users, Groups, Security
11	LAN Admin: Backup and Recovery
12	Test 2 given during this week LAN Admin: Reactive and Proactive Mgt.
13	Wide Area Networks
14	Making Network Connections
15	Internet Technology
16	Exam Week - Test 3 or Final Exam Given

## **EVALUATION OF STUDENT PERFORMANCE:**

Note: The following represents a range of possible assessment strategies. The exact configuration of exams, quizzes, homework and projects will be determined by the instructor.

1. Exams: Two (2) or Three (3). Example – (Midterm + Final) or (2 exams + Final) or (3 exams)
2. Quizzes: Zero (0) to Six (6).
3. Homework/Projects: One (1) to Six (6).

Note: The course grade should be computed as follows (with the exact percentages determined by the instructor).

Exams and Quizzes: 65% to 80% of course grade  
Homework/Projects: 20% to 35% of course grade

Grades should be calculated based on the system listed below:

A = 90 – 100%  
B = 80 – 89%  
C = 70 – 79%  
D = 60 – 69%  
F = 59% and below

## **INSTRUCTIONAL MATERIALS:**

Required Textbook:

Local Area Networks, David A. Stamper, 3rd ed., 2001, Prentice Hall Publisher