PRINCE GEORGE'S COMMUNITY COLLEGE OFFICE OF INSTRUCTION

MASTER COURSE SYLLABUS

CIS 140 Introduction to Local Area N	etworks	Barry W. Bugg	
Course Designator and Title		Prepared by	Date
Barry Bugg		Eric Grosse	
Department Chairman	Date	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 serve
- 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