PRINCE GEORGE'S COMMUNITY COLLEGE
OFFICE OF INSTRUCTION

MASTER COURSE SYLLABUS

CIS 170 Understanding Operating Systems		Cynthia Mason-Posey	12/5/2005
Course Designator and Title		Prepared by	Date
Barry W. Bugg		Dr. Aaron Stucker	
Department Chairman	Date	Instructional Dean	Date

COURSE DESCRIPTION:

Provides basic working knowledge of computer operating system commands, functions and management using the DOS, Windows, Linux and Unix operating environments. Topics include: memory management, process management, device management, file management and operating system tools. Introduces command structures and explores operations using GUI and Command Lanaguage Interfaces. Students will demonstrate proficiency by completing various task related laboratory assignments. focuses on the main topics covered in the A+ Operating Systems Technologies Examination.

EXPECTED COURSE OUTCOMES:

- *For proposed general education courses, indicate correlation with core learning outcomes by placing letter(s) of outcomes in parentheses next to course learning outcome. See document "General Education Core Learning Outcomes" for a lettered list. For example if course outcome 1 correlates with core learning outcome C, place (C) at the end of the outcome statement.*
- *For each course learning outcome, indicate briefly the planned assessment tools, such as cases, essay, multiple choice questions, etc.*
- *Course learning outcomes should be numbered for referral purposes.*

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

Course Learning Outcomes (General Education correlation as applicable, see above note)	Planned Assessment Tools
1. Explain the four major functions of an operating system	essay
2. Describe early memory management systems such as fixed partition, dynamic partitions and relocatable dynamic partitions	multiple choice questions

3. Complete charts using Best-fit and First-fit allocation methods	multiple choice questions
4. Describe recent memoory management systems such as paged memory, demand paging, and segmented/demand paged memory management	multiple choice questions
5. Complete charts for first-in, first-out and least recently used page replacement algorithms	multiple choice questions
6. Perform general operations in the DOS, Windows, Linux and UNIX operating systems from the command prompt and GUI for various file management tasks	lab completion
7. Explain the difference between job and process scheduling.	essay
8. Describe and complete charts for the process scheduling algorithms such as first-come, first-served, shortest job next, shortest remaining time, and round robin.	essay
9. Explain the concept of deadlock and list the seven cases for it.	multiple choice questions
10. Describe the components of device management and use basic commands for file and directory operations and for managing local storage devices.	multiple choice questions lab completion
11. Explain the strategies for the management of I/O requests	essay
12. Describe the differences in sequential versus direct access file organization methods.	multiple choice questions
13. Evaluate and compare features of operating systems for the purpose of selecting an appropriate operating system for given tasks.	multiple choice questions
14. Identify and demonstrate the procedures necessary to install, configure and upgrade the Windwos Operating System (including hardware requirements and boot sequences.) (Startup, ERD, MSDOS mode, etc)	lab completion
15. Identify and demonstrate the knowledge of Windows network capabilities (desktop side only) and how to connect to networks on the client side, includeing what the Internet is, its capabilities, basic concepts, and generic procedrues for system startup. (ipconfig, winipcfg, etc)	lab completion
16. Create and modify executable system command files.	lab completion

17. Run diagnostic programs and other system utilities in DOS, Windows, Linuw and UNIX environments.	lab completion
18. Complete lab projects for the A+ certification using batch file programming techniques.	lab completion

RANGE OF SUBJECT MATTER -- MODEL COURSE OUTLINE:

1. Introduction to Operating Systems
2. Memory Management, Early Systems
3. Introduction to the A+ Certification
4. Command Prompt
5. Memory Management, Recent Systems
6. A+ Windows creating/managing files, directories and attributes
7. Processor and Process Management
8. Device Management and Device Management Commands
9. File Management
10. A+ diagnose Windows problems/Windows Network Capabilities
11. Highlights from Network Concepts and Functions
12. Work with batch files
13. System Management
14. Command Shell Operations and Graphical User Interface Concepts
15. Current GUI Environments
16. Common system Utilities

EVALUATION OF STUDENT PERFORMANCE:

Concept Exams - Two or three
A+ Quizzes/Graded Assignments - One to Six
Projects and Homework Assignments - One to Eight

Exams and Quizzes - 65% to 80 %
Projects and Homework Assignments - 20% to 35%

INSTRUCTIONAL MATERIALS:

Required: Understanding Operating Systems, Flynn/McHoes, Brooks/Cole Publishing
A++ Certification Lab Manual (Student Edition), Mike Meyers, McGraw Hill Publishing

Recommended: Mike Meyers A+ Certification Exam Guide, extracted chapters 9-12

Other Materials: Two 3.5" DS/HD diskettes and two plain, two pocket, paper folders
A+ Certification handouts