

William Paterson University
College of Science and Health - Department of Computer Science

Fall 2018 – Spring 2019 Assessment Cycle
Analysis of the Course Coverage and Assessment Report Data

Course Number: CS3450

Course Coordination Committee Members: Erh-Wen Hu, John Najarian, Gilbert Ndjatou (chair)

Date: May 28, 2018

A. Course Prerequisites/Co-requisites

a) Problems/Issues Identified: None

b) Suggestions for Improvement: N/A

B. Course Objectives

a) Problems/Issues Identified: None

b) Suggestions for Improvement: N/A

C. Course Student Outcomes

a) Problems/Issues Identified:

I find learning outcome 5 is a little vague and hard to assess.

b) Suggestions for Improvement:

Get rid of it

D. Course Content

a) Problems/Issues Identified: None

b) Suggestions for Improvement: N/A

E. Support for the Attainment of the CS Program Student Outcomes

Student Outcome S1: Communicate effectively in a variety of professional contexts.

In this course, each student is required to produce a report on one or more of the following topics: virtualization and the cloud, security, multiple processor systems, LINUX, Android, Window 8, and operating system design. They are encouraged to work in groups of two or three. But some students choose to work by themselves. The reports are graded by the instructor of the course, and although we do not always have the time for the presentations at the end of the semester, we feel that this course is consistent with this student outcome.

Student Outcome S5: Demonstrate abilities to locate and make effective use of information.

In this course, each student is required to produce a report on one or more of the following topics: virtualization and the cloud, security, multiple processor systems, LINUX, Android, Window 8, and operating system design. Students are encouraged to work in groups of two or three. But some students choose to work by themselves. This course therefore supports the attainment of this student outcome.

F. Analysis of the Results of the Evaluations of the Course Student Outcomes Assessment Data

Students did pretty well with most of the learning outcome and consistently for the spring 2019 semester.

G. Results of the Evaluations of the Course Student Outcomes

Course: CS 3450: Operating Systems
Instructor: Gilbert Ndjatou
Semester: Spring 2019

Course Learning Outcomes	Where Measured	Percentage of Satisfactory Results
1. I am able to describe the major components of a computer system hardware with their functions.	Test 1	91
2. I am able to describe the communication between the CPU and the main memory or the controllers.	Test 1	82
3. I am able to describe the history and the evolution of operating systems.	Test 2	82
4. I am able to describe the major concepts used in modern operating systems.	Test 2 & final	76
5. I am able to describe the different structures used in the implementation of operating systems.	Final	71
6. I am able to describe the concept of a process and process implementation.	Test 3 & final	78
7. I am able to write programs that create and use processes in the UNIX environment.	Test 3, Lab, & final	70
8. I am able to describe the concepts of race conditions and critical sections.	Test 3 & final	79
9. I am able to describe most of the strategies for implementing mutual exclusions.	Test 3 & final	75
10. I am able to describe the scheduling algorithm goals in different types of operating systems.	Test 3 & final	71
11. I am able to describe one or more scheduling algorithms used in each type of operating system.	Test 3	75
12. I am able to describe the concept of deadlock.	final	73
13. I am able to describe how deadlocks are modeled and detected in a system.	final	76
14. I am able to describe the strategies used for dealing with	final	80

deadlocks.		
15. I am able to describe the memory hierarchy.	Test 1	85
16. I am able to describe the memory management strategies used in most operating systems.	Test 3 & final	73
17. I am able to describe the major components of the I/O hardware with their operations.	Test 1 and final	85
18. I am able to describe the goals of the I/O software.	final	75
19. I am able to describe the I/O software layers	final	84
20. I am able to describe the file system of one or more operating systems.	final	75
21. I am able to describe the file system implementation.	final	74
22. I am able to write programs that use system calls for file and directory management in a UNIX system.	Test 3, lab, & final	71
23. I am able to describe the structure and the major components of at least one modern operating system.	Test 2	72

Observation

I started this class with 11 students and 10 of them stayed in the class until the end of the semester. Three of those students received A for the course, one received B, three received C, and two received a D. As I mentioned above, the vast majority of students in this class were mostly interested in understanding the concepts discussed in the class. Only one student was very motivated with the hands-on practices.

* Notes:

1. For all the scores, the percentage corresponds to the number of students who receive a score of at least 70% on the question(s) related to the learning outcome.
2. Semester grade consists of composite scores of homework, hands-on lab assignments, the final project, two tests (out of three tests taken) and the final exam.. The grades were not curved.