

COSC439:**Operating Systems I****Fall 2010**

Computer and Information Sciences
Towson University
Towson, MD 21252

COURSE

Number	Title	Timings	Text	Alt-texts	Section	Class room	Final Exam Date
COSC439	Operating Systems I	M, W 2-3.15PM	Operating Systems Concepts Seventh /Eighth Edition, Silberschatz, Galvin, Gagne	Class Notes	001	YR 301	Dec 15, 2010 12.30-2.30

FACULTY

Name	Office	Phone	Email	OfficeHours
Dr. Ramesh K. Karne	7800 York Rd #429, Lab 308	410-704-3955	rkarne@towson.edu	M, T, W 1-2 PM

GRADES

Homework	Project	Midterm	Final	Class Participation/ Interaction
4-6 15%	Project 30%	25%	25%	5%

Course Objectives: An overall focus in this course will be based on a practical approach to design, implementation, and management of operating systems. The general objectives of the course include: build theoretical foundation for operating systems, understand operating systems role in emerging applications, learn process, memory, and file management techniques, study different operating system models, and get some hands on experience in building OS components. **This course is not intended to teach a particular OS such as Windows or Linux.**

Homework: There will be 4-6 assignments from real world topics. Some of the homework requires you to write code and test it thoroughly. Homework must be returned on the due date,

otherwise, there will be “**zero points**” given for that assignment. The homework must be done independently and they must be original. Late submissions may be accepted under emergency situations, with the consent of the faculty. There is no credit for group efforts. Plagiarized work counts as zero and a letter to that effect will be placed in your file.

Project: There is a mandatory group project based on the operating system concepts. There will be a total of **four-six** groups in the class based on number of students. You must join in one of these groups to participate in the project. Students select their own group members. Each group is responsible to implement their application for their chosen problem. Each student in the project must participate and play an active role to make the project successful. Group projects are competitive and will be graded on their originality, efforts, completeness, and functionality.

The project application details will be given in the class and each group’s requirements will be provided. The projects will be based students interest that may involve Linux OS, or simulation of any OS management functions. Windows OS related projects are not encouraged in this class. Some knowledge of assembly language is useful in development of these projects. It is assumed that you also have some C programming language background before you sign up for this course. If you do not have the C or assembly language background, you may consider taking this course later in your program. By the end of this project, you should become proficient in understanding and developing pieces of operating system building blocks.

There are four graded parts to the project. Do not forget that 30% of the grade is based on the project! The four parts of the grade for the project is based on your initial proposal, design and implementation, report, and presentation. Implementation is very crucial and carries more weight as students get first-hand experience on the problems that are similar to real system.

Project Grade (30% of total grade):

Proposal	10%
Design and Implementation	80%
Report & Presentation	10%

The project topics will be presented in the class and each group can pick a topic of their choice. The project proposal should be limited to 2 to 3 pages and must include the following information: project title, names of the participants, objectives, project description, and a brief understanding of the problem. The project proposal is due after 8 classes. However, partner selection must be done as early as possible in the beginning of the semester.

The project must be implemented using a high-level language like ‘C’ or a low-level language such as MASM assembler. If you have picked simulation projects, you should use Visual C++ for the implementation. You may be able to grab the code from the Web, but every line of that code must be understood and appropriate credit must be given to the original author of the code. You must clearly identify your contribution of the code in your project. You must make sure your group project is distinct and different from other groups.

The report must include complete details on the problem, description, source code, and implementation and any other information pertinent to the project. The report must not exceed 15 pages.

Each group must make a presentation in the last week of class. One or two of the group member will present the project and each group member's role must be clear during the presentation. The group can choose presenters who can clearly present the material, but the instructor can pose questions to any group member. Each group should also present their work in the lab to demonstrate the functionality of their project. The project report, code, and some sort of user's guide to compile and run code must be included in a CD, or it can be emailed to the faculty on the last day of class. **If there is no actual working of any piece in your project, your entire project grade will be zero.**

If a student does not participate in the group project up to the expectations of the group members, one or more group members can report the name of student to the instructor in an email. An instructor will discuss the issue with the student and his/her project grade will be given zero points. I strongly recommend that you should complain early in the semester (by midterm), so that the instructor has a chance to talk to the student and hopefully, the student may change his/her attitude to put full efforts in the project.

Class Schedules:

#1, #2	Chapter 1: Introduction
#3, #4, #5	Chapter 2: OS Structures
#6, #7	Chapter 3: Processes Project Discussions
#8, #9	Chapter 4: Threads
#10, #11	Chapter 5: CPU Scheduling
#12, #13, #14	Chapter 6: Process Synchronization Chapter 7: Deadlocks (Reading)
#15	MIDTERM EXAMINATION
#16, #17, #18	Chapter 8: Memory Management Project Discussions

#19, #20	Chapter 9: Virtual Memory
#21	Chapter 10: File System Interface
#22	Chapter 11: File System Implementation
#23, #24	Chapter 12: Main Storage Systems
#25, #26	Chapter 13: I/O System
#27	Chapter 21: Linux
#28, 29	Presentations
Final Examination	Dec 15, 2010

Attendance Policy: Attendance is expected at all classes. Attendance may be taken some times in the class. There will be no make up tests given later to absentees. If you miss a class for some foreseeable reason arrange for an earlier test. If you miss classes consistently, or come late to classes, you will be deducted 20% from your final grade.

Class Participation: The class participation of a student is mandatory. This includes: questions, interaction with other students, project discussions, and demonstrating your understanding of the subject among peers. A brief overview of the previous class presentations will be summarized in some classes. This is the best chance for you to participate and make your self well known in the class and to the faculty. That means, you must come prepare for every class!

Examinations: There will be one mid-term and one final examination as scheduled. The examinations will cover material taught in the class, textbooks, classroom discussions, and class assignments. Class notes and attendance will be very crucial to score well in the exams. Class discussions, which are not in the textbook, will be tested in the exam.

Make Up Policy: If a student must miss an exam, it is the student's responsibility to provide sufficient documentation of the reason for the absence. Otherwise, a grade of zero will be assigned.

Grading Policy and Discussions: All grading controversies and discussions must be done during office hours and not in the classroom. The grading as discussed in the syllabus will be strictly enforced.

Office Hours: Even though office hours are as listed above, if some one needs immediate help and attention with the assignment, they are welcome to knock on my door when I am in the office or in the lab. I will not be reading email during the weekends.

Classroom Policies: There is no food allowed in the classroom. If you happen to bring a soft or hot drink to the classroom, you must cleanup the mess. You can't show any rude behavior with your fellow classmates or instructor in the classroom, which may result in removing you from the class. If you have any problems with people, you must discuss that with the instructor during the office hours and file an official complaint, which will be resolved by the instructor, or it will be taken to the Chair of the department for further resolution. **There is absolutely no gossip in the classroom.**