CSE 460: Operating Systems  
Spring 2016, Zemoudeh  
School of Computer Science and Engineering  
California State University, San Bernardino

Lecture Time and Place: MW 12:00-1:15 in TC-016  
Lab Time and Place: M 10:00-11:50 in JB-359  
Instructor: Kay Zemoudeh, kay@csusb.edu  
Office: JB 347  
Office Hours: MW 1:30-2:30, 6:00-7:00  
Text: Silberschatz, Galvin, Gagne, "Operating System Concepts",  
9th Ed. (paper back) Wiley, 2009  
Final: Wednesday, June 15, 12:00-1:50  
Website: cse.csusb.edu/kay/cs460

Grading:  
Final 50%  
Midterm 20%  
Assignments 10%  
Lab 20%

Letter Grade Assignment: 93-100% A  90-92% A –  
86-89% B+  83-85% B  80-82% B –  
76-79% C+  73-75% C  70-72% C –  
66-69% D+  63-65% D  60-62% D –  
0-59% F

Tentative Syllabus:  
Ch. 1: Introduction  Week 1  
Ch. 2: OS Structure  Week 2  
Ch. 3: Processes  Week 3  
Ch. 4: Threads  Week 4  
Ch. 5: CPU Scheduling  Week 5  
Ch. 6: Process Synchronization  Week 6  
Ch. 7: Deadlocks  Week 7  
Ch. 8: Main Memory  Week 8  
Ch. 9: Virtual Memory  Week 9  
Ch. 13, 14 & 15: IO Systems and Security  Week 10

Course Description and Objectives:  
CSE 460 covers basic OS design and implementation concepts through the coverage of selected topics in the text, as outlined above, and the design and implementation of a simple OS as the on-going project in the lab. In both lecture and lab, we will cover process management and memory management in detail. In the lecture we also cover process synchronization, multi-threading, deadlocks, etc.

The project consists of three phases: CPU/Assembler, Process Management, and Memory
Management. The project could be a group effort where each group consists of two members.

The objective of the course is to gain an overall understanding of the internals, organization, and workings of operating systems. Once a student gains a fundamental understanding of Operating Systems, he/she could
a. design and develop better programs
b. dissect and understand (open-source) operating systems
c. develop new operating systems
d. efficiently and effectively use an operating systems

Student Outcomes
CSE 460 supports the following student outcomes defined by ABET:
a) An ability to apply knowledge of computing and mathematics appropriate to the discipline
b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
d) An ability to function effectively on teams to accomplish a common goal
i) An ability to use current techniques, skills, and tools necessary for computing practice
j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices
k) An ability to apply design and development principles in the construction of software systems of varying complexity

Policies:
The exams will consist of 4-6 problem solving questions similar to the homework questions but at a level that allows for the limited time in the exam. The Final is comprehensive. Everybody must take the Final.

Homeworks consist of programming assignments, algorithm design, and other problem solving exercises. There is a 10% per day penalty for late homeworks. Exams and homeworks must be individual effort. If it is demonstrated that two or more students have collaborated on an assignment, the assignment grade will be divided among them. If you find the solution of a problem on the Internet or other publicly available sources, be prepared to share your grade with the other students who have copied the same answer! Lab work may be completed by a group of two students. Any type of cheating or misconduct will result in an F in the course and possibly expulsion from the University. Please refer to the Plagiarism and Cheating Policy on the online University bulletin/catalog:

Plagiarism and Cheating
Plagiarism and cheating are violations of the Student Conduct Code (see Appendix) and may be dealt with by both the instructor and the Judicial Affairs
Officer. Definition and procedures for addressing cheating and plagiarism are found below. Questions about academic dishonesty and the policy should be addressed to the Office of the Vice President, Student Services.

Plagiarism is the act of presenting the ideas and writings of another as one’s own. Cheating is the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means. Cheating includes but is not limited to:

1. Copying, in part or in whole, from another’s test, software, or other evaluation instrument.

2. Submitting work previously graded in another course unless this has been approved by the course instructor or by departmental policy.

3. Submitting work simultaneously presented in two courses, unless this has been approved by both course instructors or by the department policies of both departments.

4. Using or consulting during an examination sources or materials not authorized by the instructor.

5. Altering or interfering with grading or grading instructions.

6. Sitting for an examination by a surrogate, or as a surrogate.

7. Any other act committed by a student in the course of his or her academic work, which defrauds or misrepresents, including aiding or abetting in any of the actions defined above.

Plagiarism is academically dishonest and makes the offending student liable to penalties up to and including expulsion. Students must make appropriate acknowledgements of the original source where material written or compiled by another is used.

Procedure. Allegations of academic dishonesty may be handled directly by the instructor or may be referred by the instructor to the Judicial Affairs Officer.

If handled by the instructor, the instructor has the following responsibilities:

1. To preserve the evidence in support of the allegation;

2. To notify the student of the allegation and of the evidence on which it is based;

3. To provide the student a reasonable opportunity to challenge or rebut the allegation;
4. To notify the student of the action being taken.

   The instructor may employ any of the following sanctions:

1. Verbal or written reprimand;

2. Assignment or appropriate task or examination;

3. Change of grade, including assigning a punitive grade to work involving dishonesty, or for the course, project, thesis, or any other summary evaluation of the student’s academic work.

   If the student does not wish to accept the sanction proposed by the instructor, the student may request and require that the allegation be referred to the Judicial Affairs Officer. In that event, the procedures specified under Executive Order 970 (Student Disciplinary Procedures of the California State University) shall be observed. The instructor shall not impose any sanction other than the sanction(s) imposed through the disciplinary procedure.

Students with Disabilities:
If you are in need of an accommodation for a disability in order to participate in this class, please let me know and also contact Services to Students with Disabilities at UH-183, (909)537-5238.