OPERATING SYSTEMS THEORY
(4:30-5:45 PM, Tuesday, Thursday, DEH 130)

Instructor: S.K. Dhall, #231 DEH TEL: 325-4042

Office Hrs: 1:30 – 3:00pm, Tuesday, Thursday

Text: There is no prescribed text. Material for the course will be drawn from papers, instructor’s notes, and the following books, which have been placed on reserve in the Engineering Library:

1. Operating Systems Theory by Coffman and Denning.

Course Outline: Concurrent Processes:
Critical section, mutual exclusion, synchronization primitives, monitors, Critical Regions, Path expressions.
Deadlocks.
Processor Scheduling: Deterministic and Probabilistic models.
Computer Security:
Model for access control, flow-secure access control, information flow control.
Virtual Memory:
Paging and segmentation, page replacement algorithms, stack and priority algorithms, the cost function determination, the extension problem, the working set principle and its relation with LRU.
Secondary Memory.

Course Outcome In addition to learning the above material, by the end of the semester, the students will increase their:

Ability to apply knowledge of computing and mathematics appropriate to the discipline.

Homework: All homework should be turned in when due. The homework must be typed. Late and/or illegible work will not be accepted. Homework will count for 40% towards the final grade.

Examinations: Mid-term Exam (25%): Date to be announced later
Final Exam (35%): As scheduled according to University Calendar

Grading: Grade assignment will be as follows:
'A':  90% and above;  
'B':  78% - 90%;  
'C':  65% - 78%;  
'D':  50% - 65%;  
'F':  below 50%.

**Cooperation:** A good way to learn the material is to explain it to someone else, so student-student discussion is encouraged. Student conversation is a valuable tool in suggesting different approaches to problem solution. However, since a grade must be assigned to each student that reflects the individual’s mastery of the subject, and not the communication talent, the work you turn in must be your own. **COLLABORATION IS NOT ALLOWED, AND WHEN DISCOVERED, WILL BE REPORTED TO THE APPROPRIATE AUTHORITIES TO BE DEALT WITH ACCORDING TO THE UNIVERSITY REGULATIONS.**

ANY STUDENT IN THIS COURSE WHO HAS A DISABILITY THAT MAY PREVENT HIM/HER FROM FULLY DEMONSTRATING HIS/HER ABILITIES SHOULD CONTACT ME PERSONALLY AS SOON AS POSSIBLE SO WE CAN DISCUSS ACCOMMODATIONS NECESSARY TO ENSURE FULL PARTICIPATION AND FACILITATE YOUR EDUCATIONAL OPPORTUNITIES.

The College of Engineering utilizes student ratings as one of the bases for evaluating the teaching effectiveness of each of its faculty members. The results of these forms are important data used in the process of awarding tenure, making promotions, and giving salary increases. In addition, the faculty uses these forms to improve their own teaching effectiveness. The original request for the use of these forms came from students, and it is students who eventually benefit most from their use. Please take this task seriously and respond as honestly and precisely as possible, both to the machine-scored items and to the open-ended questions.