OPERATING SYSTEMS THEORY
(4:25-7:05 PM, Wednesday, SEC P0209)

Instructor: S.K. Dhall, #231 DEH TEL: 325-4042
Office Hrs: 2:30pm – 4:00 pm, Monday, Wednesday

Text: There is no prescribed text. Material for the course will be drawn from papers, instructor’s notes, and the following books:

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 Queueing network 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 (if time permits).

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.** Illegible work will not be accepted. Late homework will be subject to penalty at 10% per day. Homework may include reading/writing a technical paper. Homework will count for 30% towards the final grade.

Examinations: Mid-term Exam (30%): Date to be announced later
Final Exam (40%): It will be on the last day of classes during class time.

Grading: Grade assignment will be as follows:
'A': 90% and above;
Graduate Students: Graduate students will be assigned more homework than the undergraduate students. They will also have additional/different problems than the undergraduate students in the exams.

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.

Religious observance: It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays. If you need to observe any religious holiday, **PLEASE LET ME KNOW IN ADVANCE.**

Adjustments for Pregnancy/Childbirth Related Issues: Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact me as soon as possible to discuss. Generally, modifications will be made where medically necessary and similar in scope to accommodations based on temporary disability. Please see [www.ou.edu/content/eoo/pregnancy-faqs.html](http://www.ou.edu/content/eoo/pregnancy-faqs.html) for commonly asked questions.

Title IX Resources: For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including
advocates on-call 24.7, counseling services, mutual no contact orders, scheduling adjustments and
disciplinary sanctions against the perpetrator. Please contact the Sexual Misconduct Office 405-325-2215 (8-5) or the Sexual Assault Response Team 405-615-0013 (24.7) to learn more or to report an incident.