ECE 8320 Nonlinear systems

Course Description: Nonlinear systems including topics such as limit cycles, phase plane analysis, bifurcation, Lyapunov stability, input-output stability, passivity. Topics from control such as feedback linearization, sliding control, and Lyapunov redesign.

Prerequisites: Undergraduate linear systems and control courses, or consent of instructor

Instructor: Satish S. Nair, 229 EBW (882-2964; nairs@missouri.edu)

Credits/Class hours: 3 credits; Mon 2-3:15 pm, Thurs 4-5:15 pm, EBW 145


+ Handouts related to (i) Synchronization and (ii) Random vars including Markov processes

Credits/Class hours: 3 credits; Mon 2-3:15 pm, Thurs 4-5:15 pm, EBW 145

Grading: Homeworks 20%

[curve grading] Two Quizzes 10% (1-23 Sept; 2-11 Nov)

Mid-Term Exam 30% (17 Oct)

Final Exam 40% (Univ. schedule)

Academic dishonesty: Academic honesty is fundamental to the activities and principles of a University. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with consequences that range from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor. If you are caught cheating on an exam or assignment, you will either receive a grade of zero for the exam/assignment, or an F for the course. Weekly assignments are individual assignments, so do not copy someone else's assignment. If you are caught committing academic dishonesty, your actions will be reported to the Provost's office, according to university policy.

Special needs: If you need accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please inform me immediately. Please see me privately after class, or at my office.

Office location: 229 EBW Office hours: see above. To request academic accommodations (for example, a note taker or extended time on exams), students must also register with the Office of Disability Services (http://disabilityservices.missouri.edu), S5 Memorial Union, 882-4696. It is the campus office responsible for reviewing documentation provided by students requesting academic accommodations, and for accommodations planning in cooperation with students and instructors, as needed and consistent with course requirements. For other MU resources for students with disabilities, click on "Disability Resources" on the MU homepage.

Recording: University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. In this class, students may make audio or video recordings of course activity unless specifically prohibited by the faculty member. However, the redistribution of audio or video recordings of statements or comments from the course to individuals who are not students in the course is prohibited without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.