ECEN 457: OPERATIONAL AMPLIFIERS AND APPLICATIONS

• Spring 2009: MWF 01:50PM-02:40PM ZACH 105B

• Instructor: Kamran Entesari
  Office Hours: MW 3:00 pm – 4:00 pm
  Office Location: WERC 318A
  Phone: (979) 845 – 9586 E-mail: kentesar@ece.tamu.edu
  Web page: http://www.ece.tamu.edu/~kentesar

• Prerequisite: ECEN 325


• Description: Operational amplifiers (Op Amps) are basic building blocks of a variety of electronic circuits. This course emphasizes on basic concepts regarding Op Amps and their applications in practical circuits. The topics covered in this course help students to develop Op Amp circuit design expertise through approximate and effective circuit analysis and through more precise circuit simulations. This is a senior undergraduate/graduate level course. The course includes six laboratories to improve students’ practical skills. It also consists of a final project which can be either (a) design, simulation and realization of a small system, or (b) special hardware projects chosen by students including the theoretical aspects and the justification of the design, experimental vs. theoretical results and a prototype with a printed circuit board. There would be a final presentation for each project at the end of the class.

• Grading Policy: 1) Six Laboratories 20%, 2) Two Midterm Exams 40%, 4) Final Project 20%, 5) Homework Assignments 20%

• Topics to be covered:

1  Op Amp fundamentals and ideal macro model Chapters 1,2 Lectures: 5*
2  Non-ideal properties and macro models Chapters 5,6 Lectures: 5
3  Stability and Noise analysis in Op Amp circuits Chapters 7,8 Lectures: 5
4  Active filters Chapters 3,4 Lectures: 10
5  Multipliers and nonlinear applications Chapters 9, 13 Lectures: 6
6  Signal generators Chapter 10 Lectures: 6
7  A/D and D/A Converters Chapter 12 Lectures: 4
8  Phase-locked loops Chapter 13 Lectures: 4
*Total number of 50 minutes lectures: 45

• Americans with Disabilities Act (ADA) Policy Statement:
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services in Cane Hall, Room B118 or call 845-1637.

• An Aggie does not lie, cheat, or steal or tolerate those who do.
Honor Council Rules and Procedures: http://www.tamu.edu/aggiehonor