EE 508
Integrated Filter Design
Fall 2010
COURSE INFORMATION

Room: 
Lecture - 1220 Hoover
Labs - 2046 Coover

Time: 
Lecture - MWF 10:00 – 10:50
Laboratory - Arranged

Lecture Instructor:
Randy Geiger
2133 Coover
Voice: 294-7745
e-mail: rlgeiger@iastate.edu
Office Hours: I maintain an open-door policy, will reserve 1:00 to 2:00 MWF specifically for students in EE 330 and EE 508. Appointments are welcomed too.

Course Description:
Filter design concepts. Approximation and synthesis. Transformations. Continuous-time and discrete time filters. Discrete, active and integrated synthesis techniques

Course Web Site  http://class.ee.iastate.edu/ee508/ 
Homework assignments, lecture notes, laboratory assignments, and other course support materials will be posted on this WEB site. Students will be expected to periodically check the WEB site for information about the course.

Required Test:
There is no required text for this course. There are a large number of books that cover portions of the material that will be discussed in this course and some follow. Part of these focus on the concepts of filter design and some of the best are not new. Those that focus more on integrated applications are mostly rather narrow in scope.

Reference Texts:


1V CMOS Gm-C Filters, by Lo and Hung, Springer, 2009.


Design of high frequency integrated analogue filters, by Sun, IEE, 2002.

High-Performance CMOS Continuous-Time Filters, by Silva-Martinez, Steyaert, and Sansen, Kluwer, 1993


Grading: Points will be allocated for several different parts of the course. A letter grade will be assigned based upon the total points accumulated. The points allocated for different parts of the course are as listed below:

- 2 Exams 100 pts each
- Homework 100 pts. total
- Lab and Lab Reports 100 pts. total
- Design Project 100 pts. total

Laboratory:

There will be weekly laboratory experiments. Students will be expected to bring parts kits such as those used in EE 230 and EE 330. To the maximum extent possible, students will be expected to work individually in the laboratory.

The design project will be the design of an integrated filter structure. Expectations will be to carry the design through post layout simulation. The option for fabricating this integrated circuit will be available to students in the class.

Homework:

Homework assignments are due at the beginning of the class period on the designated due dates. Late homework will be accepted, without penalty, up until 5:00 p.m. on the due date in Room 2133 Coover.
Additional Comments

I encourage you to take advantage of the e-mail system on campus to communicate about any issues that arise in the course. I typically check my e-mail several times a day. Please try to include “EE 508" in the subject field of any e-mail message that you send so that they stand out from what is often large volumes of routine e-mail messages.