EE5318-001 Analog CMOS IC Design
Spring 2017, Tu/Th 09:30 am – 10:50 am, NH 108

INSTRUCTOR: Sungyong Jung, Associate Professor, EE Department.
Office: 252D Nedderman Hall, Email: jung@uta.edu, Phone: 817-272-1338
Office Hours: 08:00 AM – 09:20 AM on Tuesday (Other times by appointment)

RECOMMENDED TEXTBOOK: Behzad Razavi: "Design of Analog CMOS Integrated Circuits", McGraw Hill, 2001.

REFERENCES:
1. Paul R. Gray and Robert G. Meyer, "Analysis and Design of Analog Integrated Circuits", Wiley.
2. Phillip E. Allen and Douglas R. Holberg, "CMOS Analog Circuit Design", Oxford.
3. Randall L Geiger, Phillip E. Allen and Noel R. Strader, "VLSI Design Techniques for Analog and Digital Circuits", McGraw Hill.
4. David A. Johns and Kenneth W. Martin, "Analog Integrated Circuit Design," Wiley.

GRADUATE TEACHING ASSISTANT: TBD

PREREQUISITE: NA

COURSE DESCRIPTION: This course introduces the principles of CMOS analog integrated circuit design and analog IC design knowledge used in the analog IC design industry and research.

ATTENDANCE POLICY: Students are expected to attend classes regularly.

DROP POLICY: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information.

HOMEWORK: Assignments will be given (almost) bi-weekly, and they are due at the beginning of the class, unless otherwise specified. No late homework will be accepted.

EXAMS: There will be two midterm exams. All tests will be comprehensive, close book and close notes. No make up exam will be given unless approval is obtained prior to the scheduled test date.

IMPORTANT DATES:
Midterm exam 1: 03/21/2017
Midterm exam 2: 04/25/2017

GRADING POLICY:
Assignments: 10%
Pop Quizzes: 10%
Midterm Exam 1: 40%
Midterm Exam 2: 40%

GRADING SCALE:
A: 90 and above, B: 80 to 89.99, C: 70 to 79.99, D: 60 to 69.99, F: below 60

POLICY:
1. Late assignments will not be accepted.
2. This syllabus may be changed by the instructor without prior notice.
3. Any cheating will result in severe penalties.

TENTATIVE COURSE OUTLINE:
1. An Introduction and overview of design process
2. IC processing technology
3. Basic MOS device physics: MOSFET large signal model and small signal model
4. Single-Stage amplifiers: CS, CD, CG, and Cascode amplifiers
5. Differential Amplifiers
6. Current Sources/sinks and current mirrors
7. Frequency response of amplifiers
8. OP amps

AMERICANS WITH DISBILITIES ACT: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

ACADEMIC INTEGRITY: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents' Rule 50101, §2.2, "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts."

Student Support Services Available: The University of Texas at Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit www.uta.edu/resources for more information.

Electronic Communication Policy: [Suggested language] The University of Texas at Arlington has adopted the University "MavMail" address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. ***Students are responsible for checking their MavMail regularly.*** Information about activating and using MavMail is available at http://www.uta.edu/oit/email/. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

To obtain your NetID or for logon assistance, visit https://webapps.uta.edu/oit/selfservice/. If you are unable to resolve your issue from the Self-Service website, contact the Helpdesk at helpdesk@uta.edu.