Course: ELET4103 – Special Topic - Mixed Signals (3-0)

Description: Overview of analog and digital logic circuits, mixed signal circuits and systems, mixed signal test specification process, DC and parametric measurements, tester hardware, DSP-based testing, simulation and design techniques, power management circuits and systems.

Prerequisites: ELET2223 – Basic Electronics I
Co-requisites: ELET4101 – Special Topic Laboratory - Mixed Signals Laboratory

Meeting Time: MW 5:00 pm – 6:20 pm
Location: 331 S.R. Collins Engineering Technology Building

Instructor: Dr. Mohan Ketkar
Office: 305 Engineering Technology Building
Phone: (936) 261-9847
Email: maketkar@pvamu.edu
Office Hours: posted outside the office


Goals: The goals of this course are to develop the application, implementation and techniques necessary for the design, testing and measurement of analog mixed signal circuits and systems. The course is intended to provide the necessary skills and concepts for the student to become a well accomplished analog mixed signal test and measurement engineer. It is the goal of the course to help the student to produce hardware and software that will be used by any analog mixed signal test equipment such as automatic test equipment (ATE). Digital signal processing design and testing concepts, techniques and approaches to various communication engineering systems using among other techniques frequency and time domain methods will be explored. Applications and implementations to various areas of AMS communications systems such as PMP issues, Wireless, xDSL will be explored. IC layout and design issues relating to AMS testing will also be discussed.

Course Evaluation: Grading will be based on the following criteria:
Homework 30%
Test 1 and Quiz 20%
Test 2 and Quiz 20%
Final Examination 30%
100%

University’s grading system listed in the undergraduate catalog will be used for the course grade.
Attendance Policy:

Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student’s course grade being reduced or in assignment of a grade of “F”. Absences are accumulated beginning with the first day of class.

Student Academic Appeals Process

Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor’s assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

ADA Statement:

Students with disabilities, who believe they may need an adjustment in this class, are encouraged to contact Office of Disabilities Services at (936) 857-2693/2694 as soon as possible. Once you receive a letter from the Office, kindly make an appointment with me to discuss appropriate adjustments for this class.

Definition of Cheating and Plagiarism

Prairie View A&M University is dedicated to a high standard of academic integrity among its faculty and students. In becoming part of the Prairie View A&M University academic community, students are responsible for honesty and independent effort. Disciplinary action will be taken against any student who alone or with others engages in any act of academic fraud or deceit.

Course Outline

1. Overview of Mixed-Signal Testing
3. DC and Parametric Measurements.
5. Tester Hardware
6. Sampling Theory
7. DSP-Based Testing
8. Analog Channel Measurements

Calendar:

Last date to withdraw without Record (12th Class Day) September 16, 2009
Last date to apply for Fall 09 graduation September 18, 2009
Last date to apply for Spring 10 graduation November 9, 2009
Last date to withdraw with ‘W’ November 9, 2009

Quiz 1 Wednesday 9/9/2009
Test 1 Wednesday 9/30/2009
Quiz 2 Wednesday 10/28/2009
Test 2 Wednesday 11/18/2009

Final Exam Monday Dec 7, 2009 5:00 – 7:00 pm

8/31/2009 mk