Course Name: Introduction to RF Design, ES 485  
Instructor: Loren Betts  
E-mail: loren.betts@sonoma.edu  
Course page: https://canvas.instructure.com/courses/985737

Class Schedule (Salazar 2009A): Tuesday: 6:00pm to 7:15pm (lecture) and Thursday: 6:00pm to 7:15pm (lecture).

Office Hours (Salazar 2008A): Tuesday: 2:15pm to 3:00pm and Thursday: 2:15pm to 3:00pm.


Assignments: Assignments will consist of written homework as well as ADS (Advanced Design System) simulations. Assignment are due at the beginning of lecture and no late assignments will be accepted. Please show all work! Note: The assignments will not be graded. If you hand in an assignment that appears that you have attempted to answer the questions you will get full credit.

Project: There will be one class project that will require the use of ADS; and generation of a report to be handed in for grading.

Exams: There will be one mid-term exam and one final exam. See the Canvas schedule of homework assignments for the due dates and the chapters covered for each exam.

Canvas: I am not normally located on campus, so Canvas will be a great resource for this class. I will post homework assignments, homework solutions, lecture notes, calendar information, and additional resources on this website. It is required that you use Canvas. It will be the primarily location for class announcements, schedule changes, etc. If you have not received an invitation from me, please let me know immediately.

Grade:  
Assignments 10% (not graded but handed in)  
Project 40%  
Mid-term Exam 20%  
Final exam 30% (The final will cover all topics)
Class Outline: Here is a rough outline of the units we will be covering. These are subject to change. Approximately 28 lectures.

1. Transmission Line Theory - 14 lectures
   a. Lumped-Element Circuit Model
   b. Lossless Transmission Line
   c. Smith Chart
   d. Quarter Wave Transformer
   e. Mismatch Analysis
   f. Lossy Transmission Line
   g. Generator and Load Mismatches

2. Microwave Network Analysis Theory and Measurements - 14 lectures
   a. Signal Flow Graphs
   b. Linear Networks
      i. Parameter Analysis
      ii. S-Parameters
   c. Nonlinear Networks
      i. Active Component Analysis
      ii. X-Parameters

No classes: March 15 and 17 (Spring break)
            March 31 (Cesar Chavez birthday)

Key Dates: TBD (Mid-term exam)
           May 12 (Last day of classes)
           TBD (Final exam)