This course is administered by Dr. Snider.
Instructor: Prof. Dave Snider, ENB 246A, 813-9744785, FAX: 813-974-5250
snider@eng.usf.edu . Office hours Mon 2-4, Wed 2-3.

Old tests and suggested assignments are available at my.usf.edu.

Description: Review of probability, functions of random variables, joint Gaussian distribution, autocorrelation, power spectra, ARMA modeling, Wiener and Kalman filters.

Course Prerequisites: EGN 3443 or equivalent first course in statistics (laws of probability, Bayes's theorem, probability density function, moments)

Text: Introduction to Random Processes, available free at my.usf.edu
Author: A D Snider

It is recommended that you have a basic book on statistics covering the multivariate Gaussian distribution. If you don't own one I recommend
Probability and Stochastic Processes
Author: R. Yates, D. Goodman
Publisher: Wiley

Course Prerequisites: EGN 3443 or equivalent first course in statistics (laws of probability, Bayes's theorem, probability density function, moments). If you can't solve the following self-diagnostic test with confidence (that is, if you need to ask me for the answers), do not take this course.
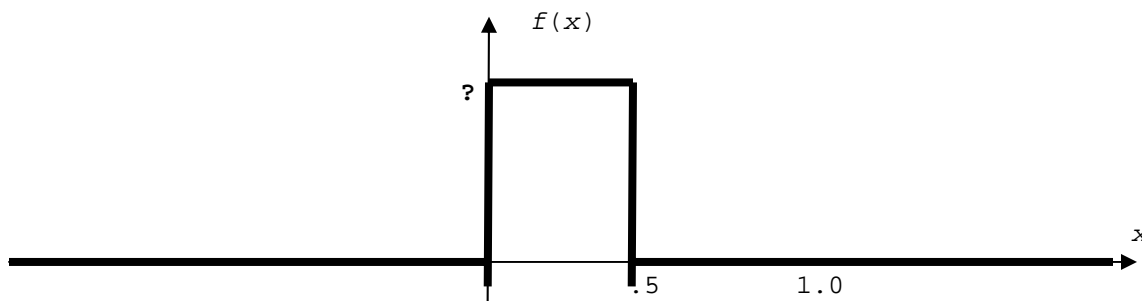
 The *pdf* of the random variable *x* is displayed in the figure above.

1. What is the mean of *x*?   2. What is the standard deviation of *x* ?
3. What is the mean square of *x* ?
4. State and derive the equation relating the mean square, the squared mean, and the standard deviation.

5. A random variable X has 5 possible outcomes: X=-2,-1,0,1, or 2. Each is equally probable.

    a. What is the probability that X is odd?
    b. What are the expected values of X and X^2 ?
    c. What is the standard deviation of X?
    d. If two values X_1 and X_2 are generated independently, what is the probability that their sum is 1?
    e. If two values X_1 and X_2 are generated independently, what is the probability that their sum is 1, *given that* the first number is (-1)?
    f. If 3 values X_1,X_2, and X_3 are generated independently, what is the probability that their sum is 1, *given that* the first number is 1?

6. What are the mean and standard deviation of the following probability density function?
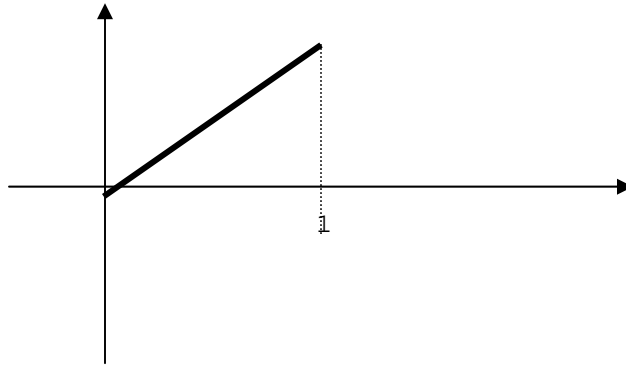
my.usf.edu Downloads
Lecture notes, documenting everything that is written on the blackboard during the lectures, can be downloaded from my.usf.edu . They will also be emailed to the class as they are generated.
Also the file Homework.pdf contains many suggested problems for practice, including copies of old tests; they are **not** to be handed in. Solutions to these problems are in HomeworkSolutions.pdf.

Requirements and Assessment:

1. Most communications between instructor and students are accessed through email or https://my.usf.edu . Follow the directions. The site contains class announcements, documents, pointers to old exams and lecture notes, etc.

2. Each student must email Prof. Snider with the following data: Last name: _____ First name: _____ Class: EEL 6545, by August 30. Thereafter each student is liable for all email notices concerning the class from Prof. Snider. Students who wish to use different email boxes should email this data from each box.

3. Each student must sign a copy of this syllabus as indicated below and submit it to Dr. Snider by September 5.

4. Certain assigned problems will be identified as graded homework.

5. Other homework problems will be recommended to the students, but not graded. You should regard the old tests as a prime source of homework problems; work them during the semester as the particular topic is covered in the lectures.

6. Takehome diagnostic examinations, midterm examinations, and finals will be given. The exams, the due dates, the grading levels, and the topics covered will be posted at my.usf.edu "Announcements." You must get an A on the diagnostic to get an A in the class.

7. The email, syllabus signoff, and exams and assignments are required for the student to get a grade.

Academic Dishonesty - It is not acceptable to copy, plagiarize or otherwise make use of the work of others in completing homework, project, exam or other course assignments. The minimum penalty for doing so is an automatic zero on the assignment and an "F" in the course. If there are any questions regarding this policy they should be directed to the EE graduate program coordinator.

I have read this syllabus and agree to the schedule and procedures stated therein.

Print name:_____ (Signed) _____ Student ID U:_____ Date: _____