PROBABILITY AND RANDOM PROCESSES  
Fall 2015

Course Description: Random process fundamentals, including spectral analysis, special classes of random processes, linear systems response to random processes, and applications.

Pre-requisites: Introductory Probability Course such as EE 3384 or EE 4384 or STAT 3330. Introductory Signals and Systems such as EE 2353 and EE 3353.

Prerequisites by Topic: 1. Probability Theory  
2. Linear Algebra (Algebraic concepts not geometric concepts)  
3. Fourier (CTFT, DTFT, and DFT), Laplace, and Z Transforms  
4. Linear Systems Theory (superposition, convolution, transfer functions)


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Office Hours: Mon-Wed 10:00 am to 12:00 pm and by appointment. I can also answer your questions via e-mail, YOU HAVE TO READ YOUR E-MAIL FOR CLASS ANOUNCEMENTS.
References:


Grading policy:

Your final grade will be based on two partial exams (40 %), a final exam (40%) literature review (10 %), and homework (10 %). Grades (for sure):

- At least 90 A
- At least 80 B
- At least 70 C
- At least 60 D
- 59 or less F

There will be a “gray area” between two-letter grades in the final distribution, so that two people getting the same weighted average grade could get different letter grades. If you are in one of these gray areas, whether your get a higher or lower grade depends primarily on two factors: (a) class participation and (b) whether your performance has been improving or declining.

An *incomplete* grade is given *only* for a valid reason when arrangements have been made with me and, in that case, only if the student was passing the course.
Classroom Etiquette: Part of being a professional is being on time and being prepared to do your job. This applies to your career as a student as much as it does to your future career as an engineer. Coming to class late is unprofessional and is disruptive to the class. You are expected to be in class and prepared to participate at the scheduled start time. Wireless devices (cell phones, PDA’s, MP3 players, Smart phones, etc.) are allowed in the classroom. It is recognized that devices of this sort provide emergency access for your family and loved ones. However, please use professional discretion with these devices. This includes shutting them off or setting them in the silent mode before coming to class. Do not use text messaging or web browser features while you are in class. If you must answer the phone, please do so after discreetly leaving the room. You may return to class once your call is finished.

Cheating and Plagiarism: Cheating is unethical and not acceptable. Plagiarism is using information or original wording in a paper without giving credit to the source of that information or wording: it is also not acceptable. Do not submit work under your name that you did not do yourself. You may not submit work for this class that you did for another class. If you are found to be cheating or plagiarizing, you will be subject to disciplinary action, per UTEP catalog policy.

Disabled Student Services Office (DSSO): Students with special needs that are registered with DSSO are to contact the instructor in order to work out accommodations. DSSO may be contacted at 747-5148.

Topics:

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<th>Description</th>
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<td>1. Probability review</td>
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<td>2. Vector random variables</td>
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<td>3. Test 1</td>
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<td>4. Characterization and special classes of random processes.</td>
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<td>5. Test 2</td>
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Computer Usage: Use of MATLAB in homework to complement class discussions.

Revised by Dr. Miguel Vélez-Reyes in August 2014.