



**EELE 3340 – Probability theory
Course Syllabus**

Instructor	Dr. Hala J. El-Khozondar Office: N519 Tel.: 2860700 Ext.: 1014 E-mail: hkhozondar@iugaza.edu Homepage: http://site.iugaza.edu.ps/hkhozondar
Class Meetings	Room L503 on Sunday and Tuesday from 12:30-14:00.
Course Description	An intuitive introduction of probability and random process models in science, engineering, and related fields to develop the basic concepts of probability, random variables, random process, and laws of large numbers. Some further analysis for stochastic processes like Poisson processes will be introduced.
Prerequisite:	Physics I, Physics II, Calculus A, and Calculus B
Textbook	Roy D. Yates and David J. Goodman. Probability and Stochastic Processes: A Friendly Introduction For Electrical and Computer Engineers, second edition, Wiley, 2005.
More materials	Quizzes and matlab files are available at: http://bcs.wiley.com/he-bcs/Books?action=index&itemId=0471272140&bcsId=1991
Topics	<ol style="list-style-type: none">1. Experiments, Models, and Probabilities .2. Discrete Random Variables .3. Continuous Random Variables .4. Pairs of Random Variables .5. Random Vectors .6. Sums of Random Variables .7. Stochastic Processes
Course objectives	<ol style="list-style-type: none">1. Understand probability models, counting methods.2. Characterize discrete random variables and their families: Bernoulli, Geometric, Binomial and Pascal.3. Characterize continuous random variables and their families: Uniform, Exponential, and Gaussian.4. Understand Probability Density Function (PDF) and Cumulative Distribution Function (CDF).5. Characterize pairs of random variables.6. Characterize the sum of independent random variables.

Course intended learning outcomes	<ol style="list-style-type: none"> 1. Write probability models, counting methods. 2. Describe discrete random variables and their families: Bernoulli, Geometric, Binomial and Pascal. 3. Describe continuous random variables and their families: Uniform, Exponential, Erlang, and Gaussian. 4. Write expressions for the Probability Density Function (PDF) and the Cumulative Distribution Function (CDF). 5. Distinguish pairs of random variables. 6. Get the sum of independent random variables.
Assessment	<p>Midterm Exam (35%) Assignments (10%) Quizzes (10%) Final Exam (45%)</p>
Homework Policy	<p>Homework assignments will be given in a regular basis. Each assignment is to be returned within one week. <i>No delay will be accepted except with good excuse.</i></p>
Office Hours	<p>As posted on the office door, or by appointment.</p>