FALL 2024 : ELEC 7410: Stochastic Signal and System Analysis
T Th 9:30 am – 10:45 am Broun 306

Instructor: Prof. J.K. Tugnait 313 Broun, 4-1846, tugnajk@auburn.edu
Office Hours: By appointment; please email.

Prerequisites by topic:

1. Basic probability theory.
2. Fourier and Z transforms.
3. Linear system analysis.

Course Goals:

1. To gain in-depth understanding of fundamentals of probability and its applications.
2. To gain in-depth understanding of fundamentals of random variables and its applications.
3. To gain in-depth understanding of fundamentals of stochastic processes and its applications.

Textbook: J.A. Gubner, *Probability and Random Processes for Electrical & Computer Engineers.* Cambridge U. Press, 2006.

Refs.:
H. Pishro-Nik, *Introduction to Probability, Statistics, and Random Processes*, available at `https://www.probabilitycourse.com`, Kappa Research LLC, 2014.
A. Papoulis and S.U. Pillai, *Probability, Random Variables, and Stochastic Processes*, fourth ed., McGraw-Hill, 2002.
H. Stark & J.W. Woods, *Probability and Random Processes with Applications to Signal Processing,* third ed., Prentice-Hall, 2002.
A. Leon-Garcia, *Probability and Random Processes for Electrical Engineering,* third ed., Addison-Wesley, 2008.

Grading Basis:

Homework :	20 %	
Test I (**in class & take-home**) :	25 %	(**Oct. 3, 2024**)
Test II (**Take-home**) :	25 %	(**Nov. 21, 2024**)
Final :	30 %	(**Take-home** Dec. 5, 2024)

TEXT COVERAGE

Parts of chapters 1 through 5 ("undergraduate"), chapters 8,9,10, and parts of chapters 11 through 14 ("graduate") of *Gubner*.

ELEC 7410. Stochastic Signal and System Analysis (3). Lec. 3. Pr., Departmental approval. Applications of probability, random variables and stochastic processes in electrical engineering.