ELEG 3143 STOCHASTIC SIGNAL PROCESSING

Catalog Data: ELEG 3143 Stochastic Signal Processing. Credit 3. Review of system analysis. Probability. Random variables. Stochastic processes. Auto correlation and power spectral density. Systems with random inputs in the time and frequency domain. Applications. Corequisite: ELEG 3133.

Textbook: D. F. Mix, Random Signal Processing, Prentice Hall, 1995.

Coordinator: R. A. Jones, Professor of Electrical Engineering.

Goals: To introduce junior/senior level students to the application of probability and statistics to signal processing.

Prerequisites by topic:

1. Transform theory.
2. Integral Calculus.
3. Probability and Statistics.

Topics:

1 Probability
2. Random variables
3. Random vectors
4. Signal analysis techniques
5. Stochastic processes
6. Least squares techniques
7. Optimum filtering
8. Template matching

Computer usage: MATLAB or C programming languages. Approximately 10 computer homework assignments.
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ABET category content as estimated by faculty member who prepared this course description:

Engineering science: 2 credits or 67%
Engineering design: 1 credit or 33%

Prepared by: _____ Date: _____