ELE 770
Statistical Signal Processing
Spring 2009

Place: E-6
Time: Tuesday 13:00-15:45

Course Outline:

Week 1-F10- Metric Spaces
Week 2-F17- Norms, Orthogonal Spaces, Projections, Random Vectors
Week 3-F24- 2nd Order Representations, Functions of R.V., Gaussian R.V.
Week 4-M03- Orthogonal Projections, Gram-Schmidt Ort., Random Processes, Gaussian Pr.
Week 5-M10- Markov Proc., Random State Models
Week 6-M17- Analysis of Systems, Spectral Factorization, Rational Modeling, Estimation
Week 7-M24- Bayesian Estimation, MAP, MLE
Week 8-M31- MSE
Week 9-A07- EXAM
Week10-A14- Multiple Parameter Est
Week11-A21- LMSE, Geometric Interp
Week12-A28- Wiener Filter, Levinson Filter
Week13-M05- Kalman Filter
Week14-M12- Kalman Filter (cont.)

References:
Fundamentals of Statistical Signal Processing, Vol. I & II, S. Kay, Prentice-Hall.
Mathematical Methods and Algorithms for Signal Processing, T.K. Moon and W.C. Stirling, Prentice-Hall.
Optimum Signal Processing, S.J. Orfanidis, McGraw-Hill.
Introduction to Statistical Signal Processing Applications, Srinath et.al., Prentice-Hall.

Grading: 1 Term Exam, Homeworks, Final Exam.