SE Course: Stochastic Analysis for Engineers

http://www.cs.aue.auc.dk/~yang/DE7/2004_stoch/stoc04.htm
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Course Summary

September 2, 2005

1 Textbook

K. Sam Shanmugan and BArthur M. reipohl: "Random Signals - Detection, Estimation and Data Analysis ", John Wiley Sons, Inc., 1988.

2 Course Webpage

http://www.cs.aue.auc.dk/~yang/DE7/2004_stoch/stoc04.htm

3 Planned Content

- **MM1**: Responses of linear-time invariant systems to random inputs
- **MM2**: Discrete linear stochastic models
- **MM3**: Detection of known signals (part one)
- **MM4**: Detection of known signals (part two)
- **MM5**: Wiener filters (part one)
- **MM6**: Wiener filters (part two)
- **MM7**: Kalman filters (part one)
- **MM8**: Kalman filters (part two)
- **MM9**: Model-free and spectral estimation (part one)
- **MM10**: Model-free and spectral estimation (part two)

4 Additional Material

Bernard Fleury's lecture notes in Aalborg at webpage:

http://cpk.auc.dk/dicom/E03/StochasticProcesses.htm

5 Self-Study Opportunity

By focusing on some specific mini-module listed in the above, each group is expected to prepare one presentation (simulating the situation that a teacher gives one lecture) using Bernard's material. After each presentation, Zhenyu will give his comments and a reinforcement.