Communication Theory (E6712) January 18, 2005
Columbia University, Spring 2005 Handout #1

Communication Theory, E6712

Instructor: Dr. Emina Soljanin

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Class Time and Place: Tuesday 10:00-12:30, 414 Pupin.

Prerequisites: Knowledge of probability, communications thoery, and signal processing at undergraduate level is required.

Grading: homework 30%, midterm 30%, final 40%.

Required Text: John G. Proakis, *Digital Communications*, Fourth Edition, McGraw Hill, 2000.

Course Outline:

- optimum receiver principles, *notes*
- coherent and incoherent communications over Gaussian channels, *Ch. 5*
- basic digital modulation schemes, *Ch. 5*
- intersymbol interference channels, *Ch. 9&10*
- fading multipath channels, *Ch. 14*
- carrier and clock synchronization, *Ch. 6*