Stevens Institute of Technology
Department of Electrical and Computer Engineering
Course Outline

EE465 – Introduction to Communication Systems

Text S. Haykin and M. Moher, *Communication Systems*, 5th Edition, John Wiley & Sons, 2009.

References J. G. Proakis, M. Salehi and G. Bauch, *Contemporary Communication Systems Using MATLAB and Simulink*, 2nd edition, Brooks/Cole Publishing, 2004.
B. P. Lathi, *Modern Digital and Analog Communication Systems*, 3rd Edition, Oxford University Press, 1998.
J. G. Proakis and M. Salehi, *Fundamentals of Communication Systems*, Prentice-Hall 2005.
L. W. Conch, II, *Digital and Analog Communication Systems*, 7th Edition, Prentice Hall, 2006.

Instructor Dr. Hongbin Li (Phone: 201 216-5604; E-mail: Hongbin.Li@stevens.edu)

Class Hours Mondays 6:15-8:45 pm

Grader See the class website

Office Hours See the class website

Grading
Homework and Computer projects	15%
Quizzes	15%
Midterm Exam:	35%
Final Exam:	35%

All assignments count. None will be dropped from your final grade.

Prerequisites E243 Probability and Statistics for Engineers and EE348 System Theory

Contents Review of probability and random variables, probability distribution, statistical averages, joint moments; Random processes, stationarity and ergodicity, mean, correlation, and covariance, power spectral density, transmission of random processes through LTI systems, narrowband processes, white noise; Continuous-wave (CW) modulation: AM/DSB-SC/SSB/VSB, FDM, narrowband and wideband FM, PM, superheterodyne receiver, noise in CW modulation systems; Pulse modulation: sampling theorem, PAM/PPM/PDM, PCM, quantization, coding and line codes, TDM, delta modulation, linear prediction, DPCM; Baseband pulse transmission: matched filter, error rate analysis, intersymbol interference, Nyquist's criterion; Passband digital transmission: ASK, PSK, FSK, DPSK.

Holidays No classes on Sept. 1 (Labor Day), Oct. 13 (Fall Recess; make-up on Oct. 14)

Miscellaneous Homework/projects will be assigned on a regular basis. Attendance will be checked randomly. **No late work will be accepted**. **No make-up exams will be given** (unless under inevitable circumstances, e.g., serious illness with doctor's proof, etc.). You are responsible for all assignments, changes of assignments, announcements of exam dates, and other course-related events announced in class or sent through e-mail.