

**Department of Electrical and Computer Engineering
University of Massachusetts, Amherst**

**ECE 745: Advanced Communication Theory
Spring 2012**

Instructor: **Hossein Pishro-Nik**
215K Marcus Hall
Phone: (413)577-0834
Email: pishro@ecs.umass.edu

Office hours Tuesday, 11:00am-12:00pm.

Course Website <https://moodle.umass.edu>
Please check course website regularly for announcements, etc.

TAs: To be announced.

Catalog Data: Entropy, Relative Entropy, and Mutual Information, Asymptotic Equipartition Property, Entropy Rates of a Stochastic Process, Data Compression, Gambling and Data Compression, Channel Capacity, Differential Entropy, Gaussian Channel, Rate Distortion Theory, Information Theory and Statistics, Universal Source Coding, Network Information Theory.

Prerequisites: A graduate-level course in probability (such as ECE 603)

Textbook: Elements of Information Theory, Author: T. M. Cover, Publisher: Wiley, Edition: second, Year Published: 2006.

Grades: There will be 4 quizzes. Your lowest grade will be eliminated. Homework assignments with solutions will be provided on the course website; you do NOT need to hand in the homework assignments. The final grade will be based on quizzes 90% and class participation 10%.