

Portland State University
Systems Science Ph.D. Program
Spring 2001

SySc 610 (CRN # 64805)
Harder House 104
Tues-Thur 12-1:50

INFORMATION THEORY II

Instructor: Andy Fraser, andy@systc.pdx.edu or 725-4989.
Office: Harder House, RM #3 at PSU.

Text: *Elements of Information Theory*, by Cover and Thomas.

Prerequisites: A previous course or study of information theory.

First Meeting: 4/3

This course is a continuation of the *Information Theory* course I teach every fall in which I cover source and channel coding for variables with discrete values (chapters 2, 3, 4, 5, and 8 of Cover and Thomas' text). Students who have previously done well in a first course on information theory will be prepared for *Information Theory II*. In the second quarter, I will certainly cover:

Chapter	Topic
9	Continuous Variables
10	Gaussian Channels
11	Maximum Entropy and Spectral Estimation
13	Rate Distortion Theory (Lossy Compression)

I will select additional material after consulting with the students who sign up. I am interested in:

Chapter	Topic
12	Information Theory and Statistics
14	Network Information Theory
15	Information Theory and the Stock Market